STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 174169

TO: Rei-Tsang Shiao
Location: rem-5a10/5c18
Art Unit: 1626
Thursday, December 29, 2005
Case Serial Number: 10/713174

From: John DiNatale
Location: Biotech-Chem Library
REM-1B65
Phone: (571)272-2557

john.dinatale@uspto.gov

Search Notes

Examiner Shiao,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

John DiNatale
Technical Information Specialist
STIC Biotech/Chem Library
(571)272-2557

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174169

PLEASE PRINT CLEARLY

Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Robert (Rusty) Shiao Examiner #: 79521 Date: 12/14/05

Art Unit: 1626 Phone Number: 2-0701 Serial Number: 10/713,104 10/713174

Location (Bldg/Room#): REM (Mailbox #): 5A-15 5C18 Results Format Preferred (circle): PAPER DISK

****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: N-sulfonyl sm, no carbonyl

Inventors (please provide full names): Benson et al

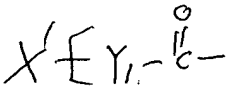
Earliest Priority Date:

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

I. Search cpd I (see claim 1)



1. Z_1, X', Y_1, R'

2 Y_1 is NZ.

3. Ra of Z_1 (i.e. C(O)R^1) with R^1 = aryl from a heterocycle ring

II Search cpds of claims 9~11.

****

STAFF USE ONLY

Searcher:

Searcher Phone #:

Searcher Location:

Date Searcher Picked Up:

Date Completed:

Searcher Prep & Review Time:

Online Time:

Type of Search

___ NA Sequence (#)

___ AA Sequence (#)

___ Structure (#)

___ Bibliographic

___ Litigation

___ Fulltext

___ Other

Vendors and cost where applicable

___ STN ___ Dialog

___ Questel/Orbit ___ Lexis/Nexis

___ Westlaw ___ WWW/Internet

___ In-house sequence systems

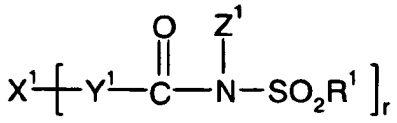
___ Commercial ___ Oligomer ___ Score/Length

___ Interference ___ SPDI ___ Encode/Transl

___ Other (specify)

What is claimed is:

1. A compound of Formula I:



I

wherein

X^1 is a substrate-reactive functional group selected from a carboxy, halocarbonyl, halocarbonyloxy, cyano, hydroxy, mercapto, isocyanato, halosilyl, alkoxysilyl, acyloxysilyl, azido, aziridinyl, haloalkyl, tertiary amino, primary aromatic amino, secondary aromatic amino, disulfide, alkyl disulfide, benzotriazolyl, phosphono, phosphoroamido, phosphato, or ethylenically unsaturated group;

Y^1 is a single bond or a divalent group selected from an alkylene, heteroalkylene, arylene, carbonyl, carbonyloxy, carbonylimino, oxy, thio, $-NR^d-$ where R^d is hydrogen or alkyl, or combinations thereof;

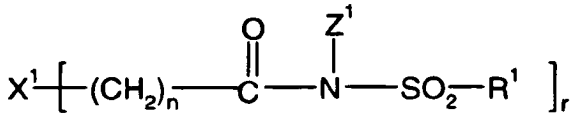
Z^1 is an alkyl, aryl, or $-(CO)R^a$ wherein R^a together with R^1 and groups to which they are attached form a four to eight membered heterocyclic or heterobicyclic group having a nitrogen heteroatom and a sulfur heteroatom, wherein said heterocyclic or heterobicyclic group can be fused to an optional aromatic group, optional saturated or unsaturated cyclic group, or optional saturated or unsaturated bicyclic group;

R^1 is an alkyl, fluoroalkyl, chloroalkyl, aryl, NR^bR^c wherein R^b and R^c are each an alkyl group or taken together with the nitrogen atom to which they are attached form a four to eight membered cyclic group, or R^1 together with R^a and the groups to which they are attached form the four to eight membered heterocyclic or heterobicyclic group that can be fused to the optional aromatic group, optional saturated or unsaturated cyclic group, or optional saturated or unsaturated bicyclic group;

r is equal to 1 when X^1 is a monovalent group or equal to 2 when X^1 is a divalent group; and

said compound is unsubstituted or substituted with a halo, alkyl, alkoxy, or combinations thereof.

2. The compound of claim 1, wherein the compound has a formula

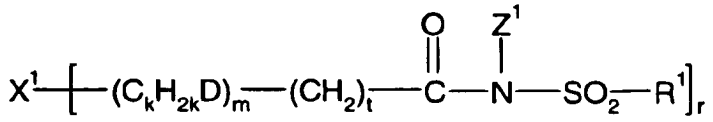


wherein

n is an integer of 1 to 100; and

said compound is unsubstituted or substituted with a halo, alkyl, alkoxy, or combinations thereof.

3. The compound of claim 1, wherein the compound has a formula



wherein

D is oxygen, sulfur, or NH;

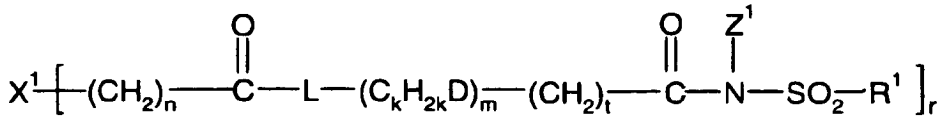
t is an integer of 0 to 12;

k is an integer of 2 to 4;

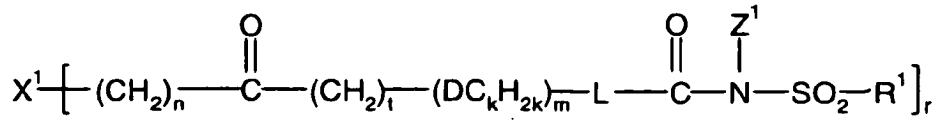
m is an integer of 1 to 200; and

said compound is unsubstituted or substituted with a halo, alkyl, alkoxy, or combinations thereof.

4. The compound of claim 1, wherein the compound has a formula



or



wherein

D is oxygen, sulfur, or NH;

n is an integer of 1 to 100;

m is an integer of 1 to 200;

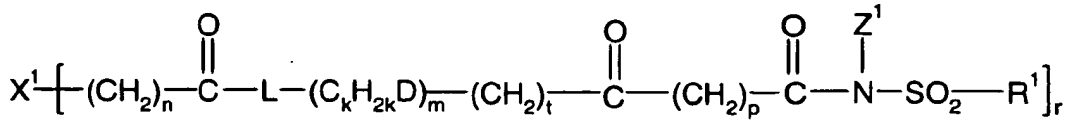
t is an integer of 0 to 12;

k is an integer of 2 to 4;

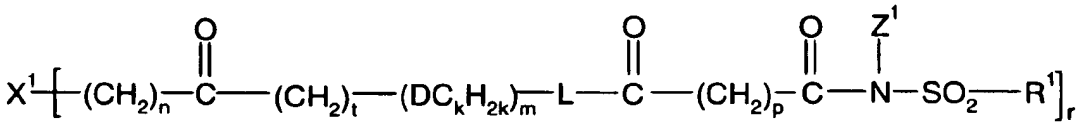
L is oxygen or NR^d where R^d is hydrogen or alkyl; and

said compound is unsubstituted or substituted with a halo, alkyl, alkoxy, or combinations thereof.

5. The compound of claim 1, wherein the compound is of formula



or



wherein

D is oxygen, sulfur, or NH;

n is an integer of 1 to 100;

m is an integer of 1 to 200;

t is an integer of 0 to 12;

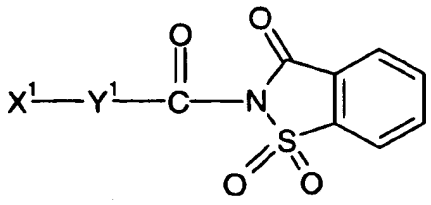
k is an integer of 2 to 4;

p is an integer of 1 to 10;

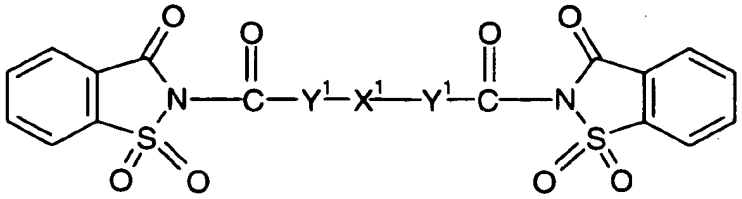
L is oxygen or NR^d where R^d is hydrogen or alkyl; and

said compound is unsubstituted or substituted with a halo, alkyl, alkoxy, or combinations thereof.

9. The compound of claim 1, where the compound is of formula

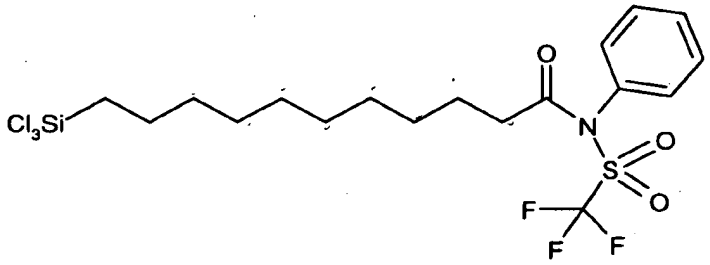


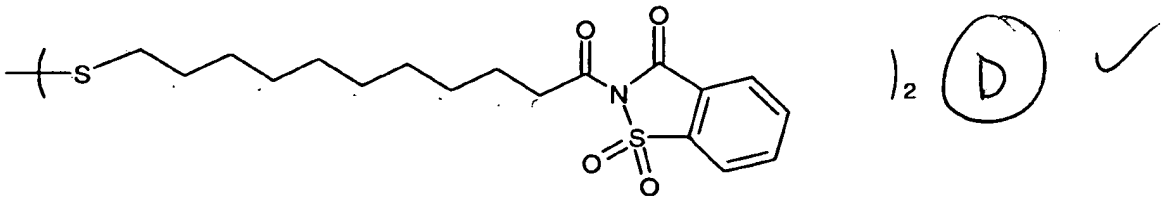
where X^1 is monovalent or

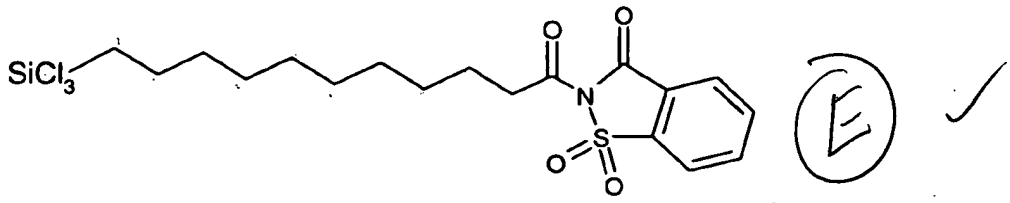


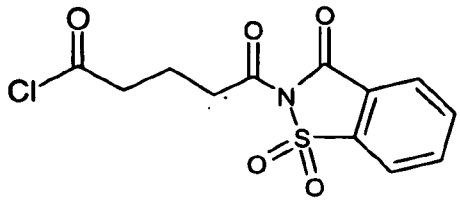
where X^1 is divalent and said compound is unsubstituted or substituted with a halo, alkyl, alkoxy, or combinations thereof.

10. The compound of claim 1, wherein the compound is

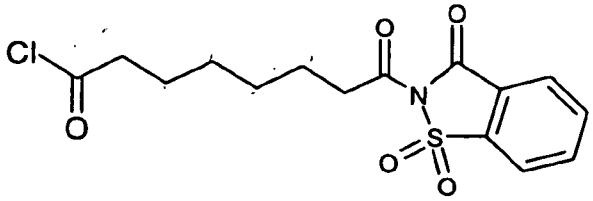




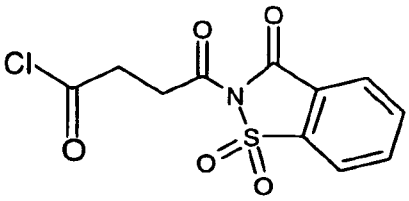




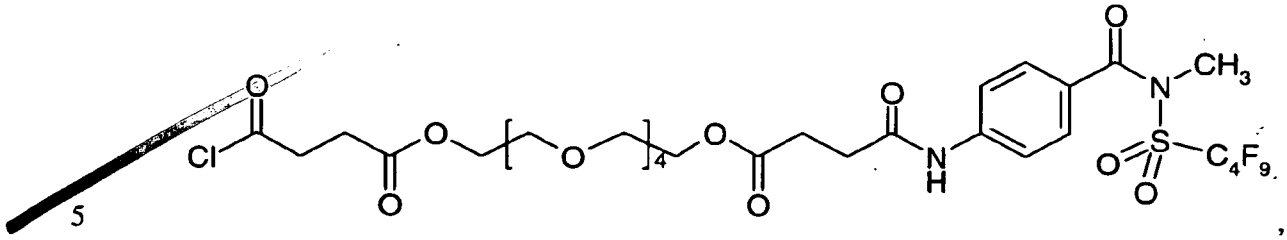
F ✓



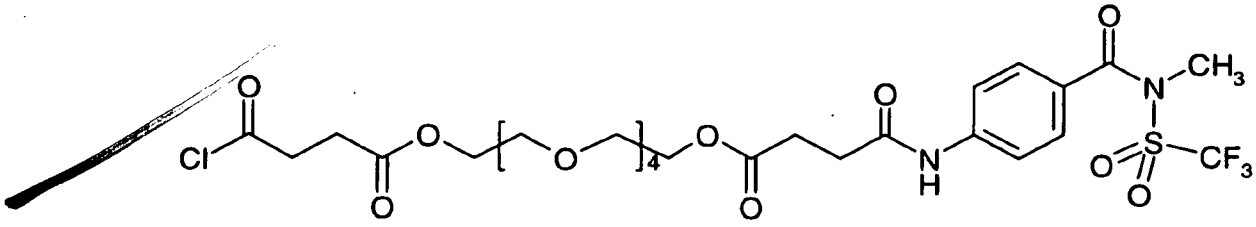
G ✓



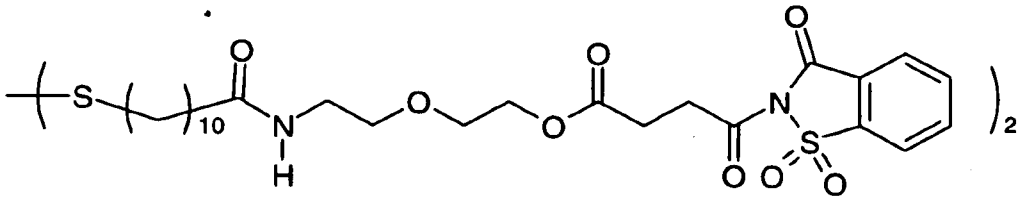
H ✓



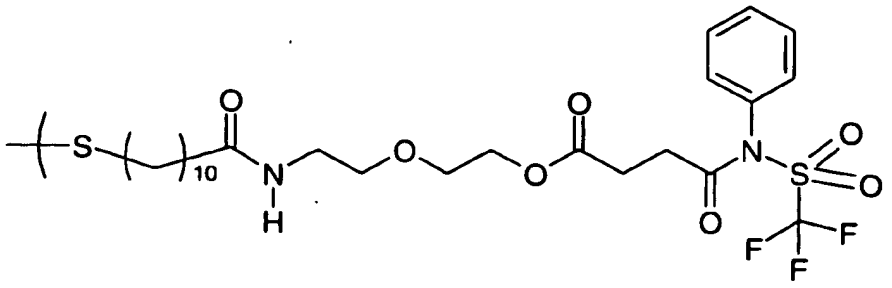
I

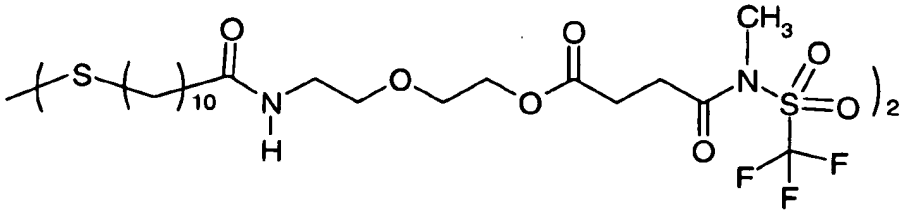


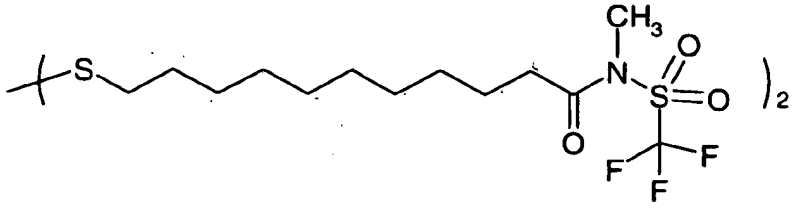
J



K ✓







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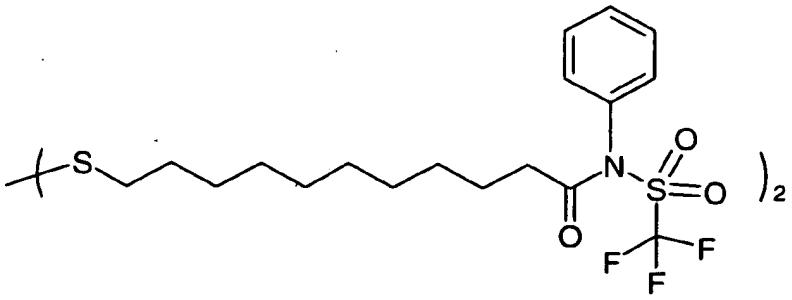
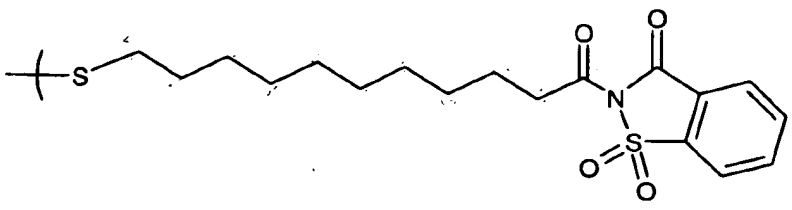


,

said compound being unsubstituted or substituted with a halo, alkyl, alkoxy, or combinations thereof.

11. The compound of claim 1, wherein the compound is



,

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Bib Data Sheet

CONFIRMATION NO. 9810

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/713,174	11/14/2003 RULE	558	1626	58627US002

APPLICANTS

Karl E. Benson, St. Paul, MN;

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Cary A. Kipke, Woodbury, MN;Brinda B. Lakshmi, Woodbury, MN;
Charles M. Leir, Falcon Heights, MN;
George G. Moore, Afton, MN;
Rahul Shah, Woodbury, MN;

** CONTINUING DATA **********

** FOREIGN APPLICATIONS **********

Foreign Priority claimed	STATE OR	SHEETS	TOTAL	INDEPENDENT
35 USC 119 (a-d) conditions met	COUNTRY	DRAWING	CLAIMS	CLAIMS
Verified and Acknowledged	MN	5	35	4

☑ yes ☐ no
☑ yes ☒ no ☐ Met after Allowance
Examiner's Signature Initials

ADDRESS
32692
3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL , MN
55133-3427

TITLE
N-sulfonylaminocarbonyl containing compounds

FILING FEE RECEIVED	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time)

STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact ***the searcher or contact***:

Mary Hale, Information Branch Supervisor
Remsen Bldg. 01 D86
571-272-2507

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1610*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

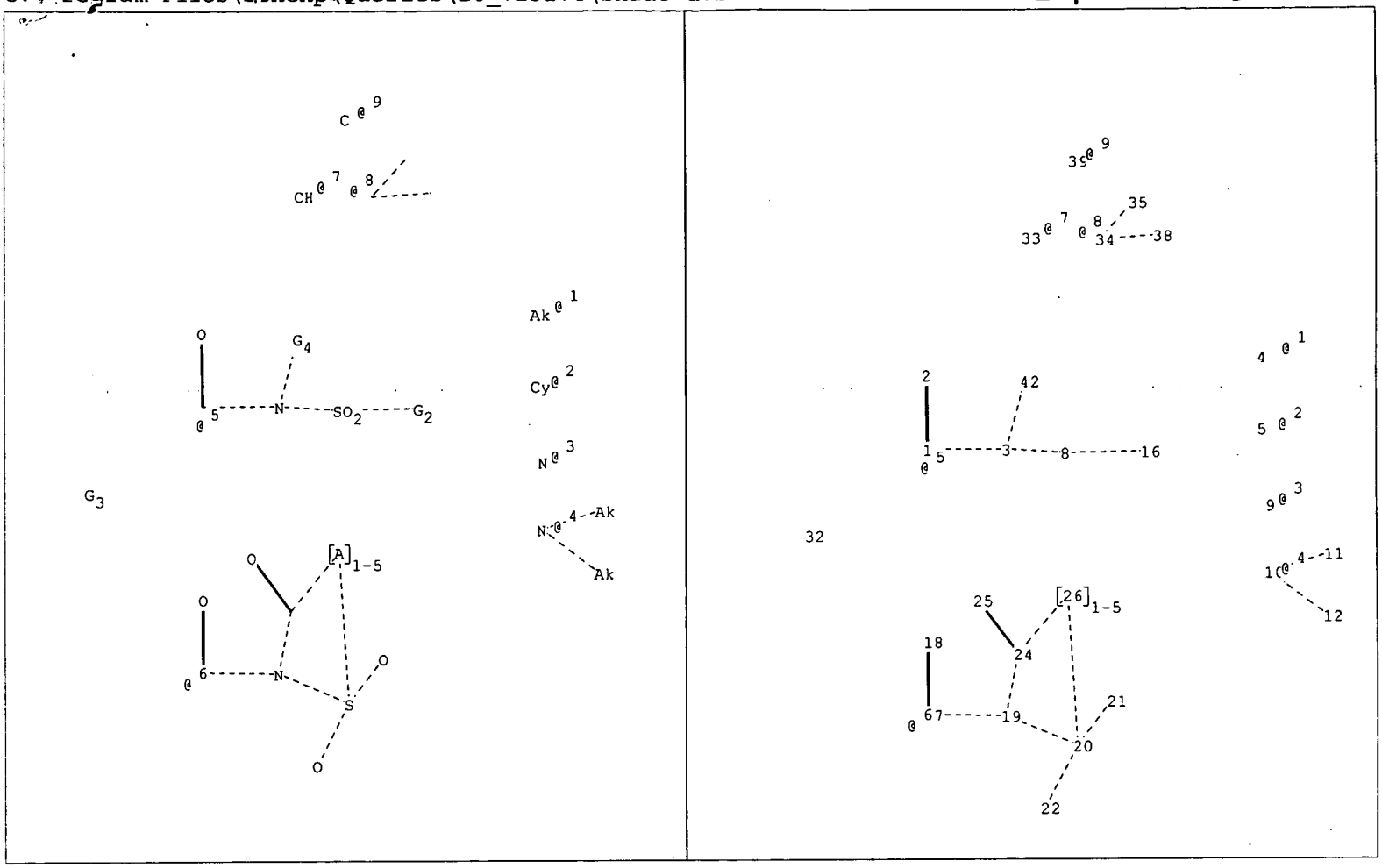
- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC-Biotech-Chem Library Remsen Bldg.

C:\Program Files\Stnexp\Queries\10_713174\shiao-d.str

structure L3



chain nodes :
1 2 3 4 5 8 10 11 12 16 17 18 21 22 25 32 33 34 35 38 39 42
ring nodes :
9 19 20 24 26
chain bonds :
1-2 1-3 3-8 3-42 8-16 10-11 10-12 17-18 17-19 20-21 20-22 24-25 34-35 34-38
ring bonds :
19-20 19-24 20-26 24-26
exact/norm bonds :
1-2 1-3 3-8 3-42 8-16 10-11 10-12 17-18 17-19 19-20 19-24 20-21 20-22 20-26
24-25 24-26 34-35 34-38

G2:[*1],[*2],[*3],[*4]

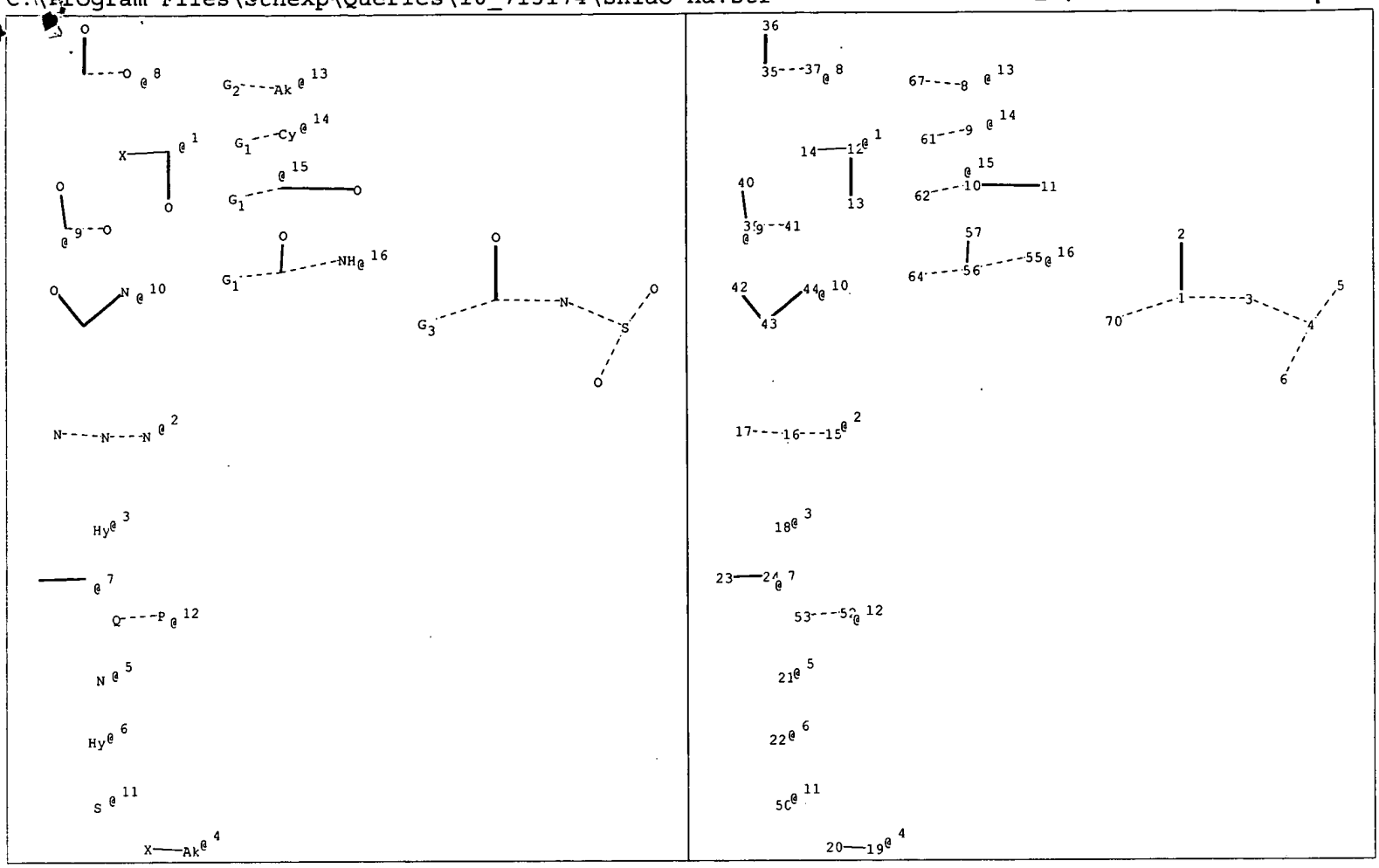
G3:[*5],[*6]

G4:[*2],[*7],[*8],[*9]

Connectivity :
21:1 E exact RC ring/chain 22:1 E exact RC ring/chain 39:4 E exact RC ring/chain
Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:Atom 8:CLASS 9:Atom 10:CLASS 11:CLASS 12:CLASS
16:CLASS 17:CLASS 18:CLASS 19:Atom 20:Atom 21:CLASS 22:CLASS 24:Atom 25:CLASS
26:Atom 32:CLASS 33:CLASS 34:CLASS 35:CLASS 38:CLASS 39:CLASS 42:CLASS
Generic attributes :
5:

C:\Program Files\Stnexp\Queries\10_713174\shiao-ha.str

structure L7



chain nodes :
1 2 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 35 36 37
39 40 41 42 43 44 50 52 53 55 56 57 61 62 64 67 70
ring/chain nodes :
3 4
chain bonds :
1-2 1-3 1-70 4-5 4-6 8-67 9-61 10-11 10-62 12-13 12-14 15-16 16-17 19-20
23-24 35-36 35-37 39-40 39-41 42-43 43-44 52-53 55-56 56-57 56-64
ring/chain bonds :
3-4
exact/norm bonds :
1-2 1-3 1-70 3-4 4-5 4-6 8-67 9-61 10-11 10-62 12-13 15-16 16-17 19-20
35-36 35-37 39-40 39-41 42-43 43-44 52-53 55-56 56-57 56-64
exact bonds :
12-14 23-24

G1:OH,SH,CN,Si,[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G2:OH,SH,CN,Si,[*1],[*2],[*3],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G3:OH,SH,CN,Si,[*13],[*14],[*15],[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]
,[*16]

Connectivity :
5:1 E exact RC ring/chain 6:1 E exact RC ring/chain 21:3 E exact RC ring/chain
50:2 E exact RC ring/chain
Match level :

```
    1:CLASS  2:CLASS  3:CLASS  4:CLASS  5:CLASS  6:CLASS  8:CLASS  9:Atom  10:CLASS  11:CLASS
    12:CLASS  13:CLASS  14:CLASS  15:CLASS  16:CLASS  17:CLASS  18:Atom  19:CLASS  20:CLASS
    21:CLASS  22:Atom  23:CLASS  24:CLASS  35:CLASS  36:CLASS  37:CLASS  39:CLASS  40:CLASS
    41:CLASS  42:CLASS  43:CLASS  44:CLASS  50:CLASS  52:CLASS  53:CLASS  55:CLASS  56:CLASS
    57:CLASS  61:CLASS  62:CLASS  64:CLASS  67:CLASS  70:CLASS
Generic attributes :
    9:
    Saturation              : Unsaturated
    22:
    Saturation              : Unsaturated
    Number of Hetero Atoms  : Exactly 1

Element Count :
    Node 18: Limited
        N,N1
        C,C2
        O,O0
        S,S0
        P,P0
        Si,Si0

    Node 22: Limited
        N,N1
```

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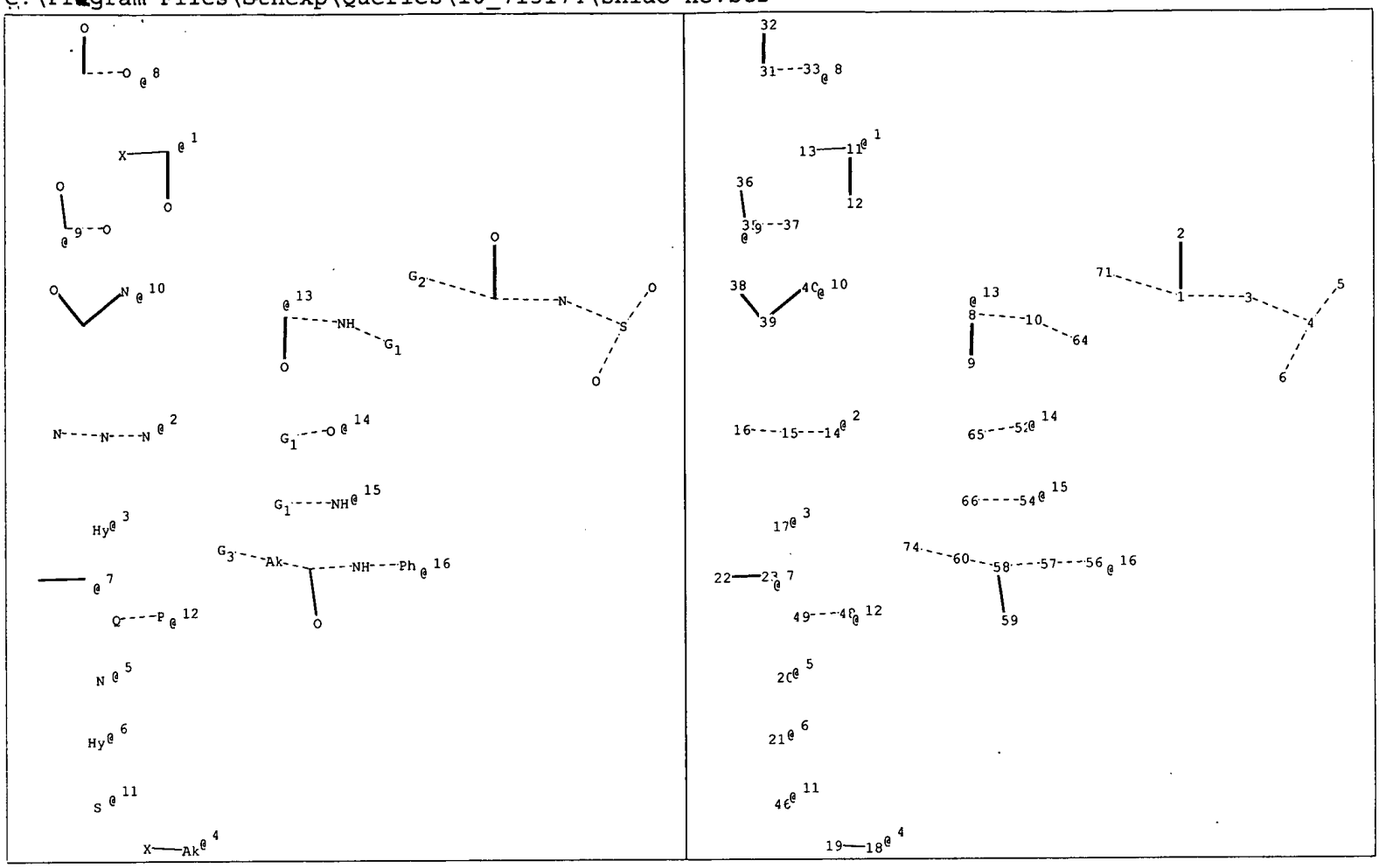
structure L11



chain nodes :
1 2 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 31 32 33 35
36 37 38 39 40 46 48 49 52 54 56 57 58 59 60 64 65 66 71 74
ring/chain nodes :
3 4
chain bonds :
1-2 1-3 1-71 4-5 4-6 8-9 8-10 10-64 11-12 11-13 14-15 15-16 18-19 22-23
31-32 31-33 35-36 35-37 38-39 39-40 48-49 52-65 54-66 56-57 57-58 58-59 58-60
60-74
ring/chain bonds :
3-4
exact/norm bonds :
1-2 1-3 1-71 3-4 4-5 4-6 8-9 8-10 10-64 11-12 14-15 15-16 18-19 31-32 31-33
35-36 35-37 38-39 39-40 48-49 52-65 54-66 56-57 57-58 58-59 58-60 60-74
exact bonds :
11-13 22-23

G1:OH,SH,CN,Si,[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G2:Si,OH,SH,CN,[*13],[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12],[*14],[*15]
,[*16]

G3:OH,SH,CN,Si,[*1],[*2],[*3],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

Connectivity :
5:1 E exact RC ring/chain 6:1 E exact RC ring/chain 20:3 E exact RC ring/chain
46:2 E exact RC ring/chain

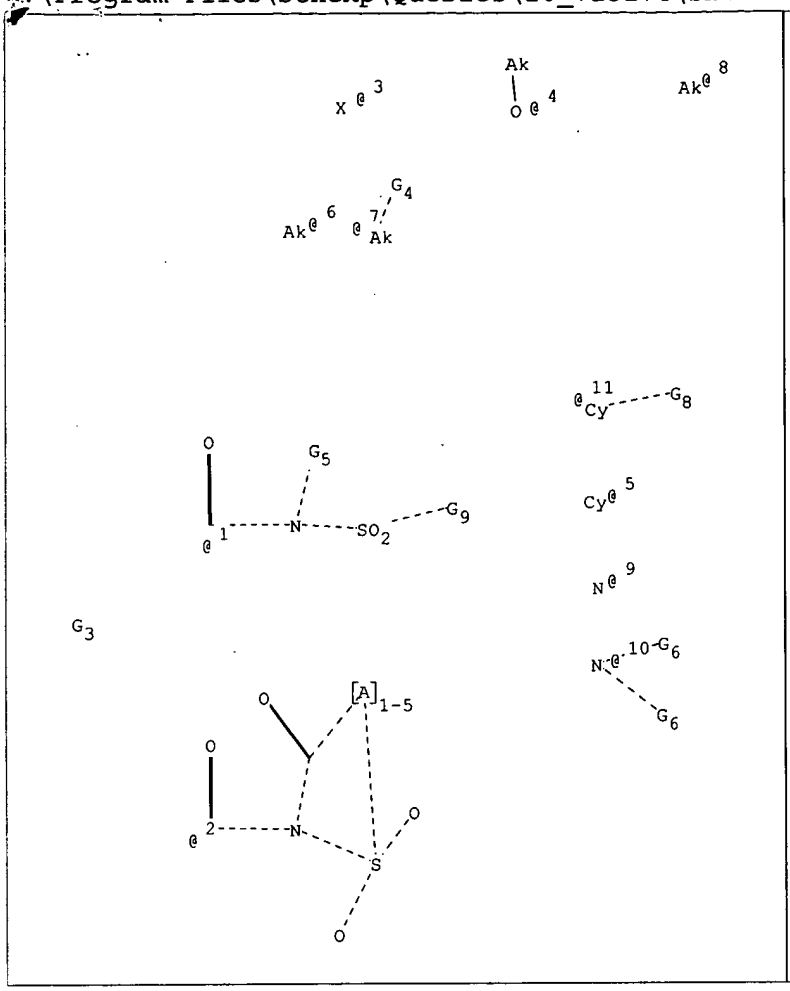
Match level :
1:CLASS 2:CLASS 3:Atom 4:Atom 5:CLASS 6:CLASS 8:CLASS 9:CLASS 10:CLASS 11:CLASS
12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:Atom 18:CLASS 19:CLASS 20:CLASS
21:Atom 22:CLASS 23:CLASS 31:CLASS 32:CLASS 33:CLASS 35:CLASS 36:CLASS 37:CLASS
38:CLASS 39:CLASS 40:CLASS 46:CLASS 48:CLASS 49:CLASS 52:CLASS 54:CLASS 56:CLASS
57:CLASS 58:CLASS 59:CLASS 60:CLASS 64:CLASS 65:CLASS 66:CLASS 71:CLASS 74:CLASS
Generic attributes :
21:
Saturation : Unsaturated
Number of Hetero Atoms : Exactly 1

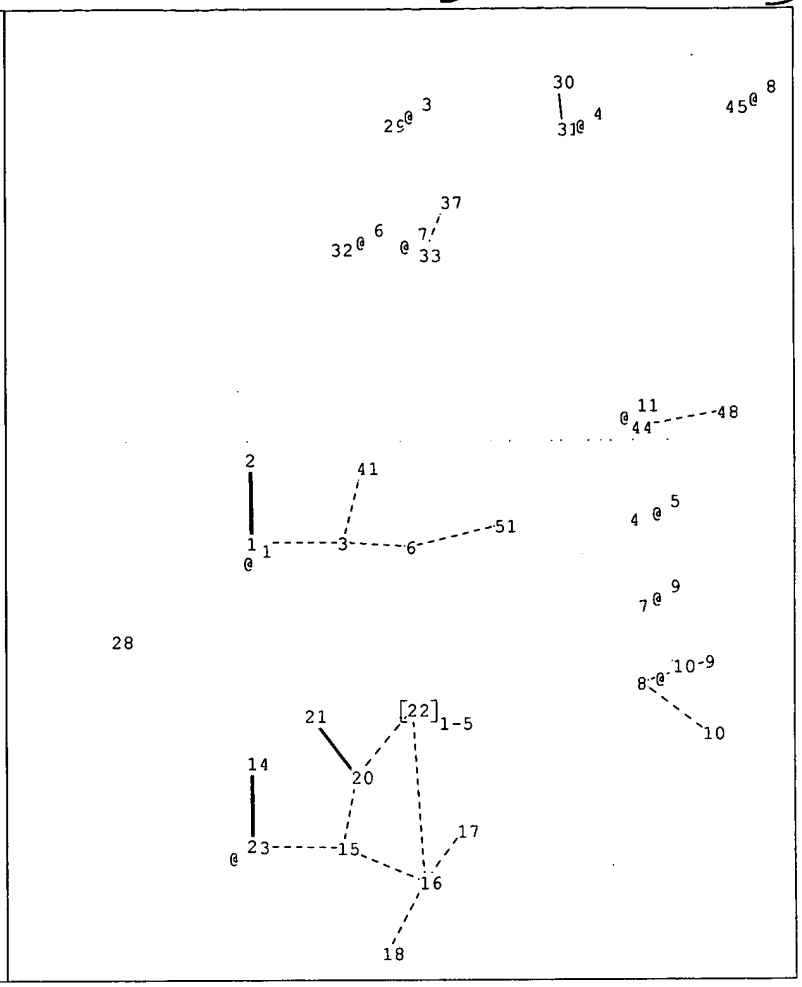
Element Count :
Node 17: Limited
N,N1
C,C2
O,O0
S,S0
P,P0
Si,Si0

Node 21: Limited
N,N1

C:\Program Files\Stnexp\Queries\10_713174\shiao-x.str

structure L13





chain nodes :
1 2 3 4 6 8 9 10 13 14 17 18 21 28 29 30 31 32 33 37 41 44 45 48 51

ring nodes :
7 15 16 20 22

chain bonds :
1-2 1-3 3-6 3-41 6-51 8-9 8-10 13-14 13-15 16-17 16-18 20-21 30-31 33-37 44-48

ring bonds :
15-16 15-20 16-22 20-22

exact/norm bonds :
1-2 1-3 3-6 3-41 6-51 8-9 8-10 13-14 13-15 15-16 15-20 16-17 16-18 16-22 20-21 20-22 30-31 33-37 44-48

G3:[*1],[*2]

G4:[*3],[*4]

G5:[*5],[*6],[*7]

G6:[*6],[*7]

G8:[*3],[*4],[*8]

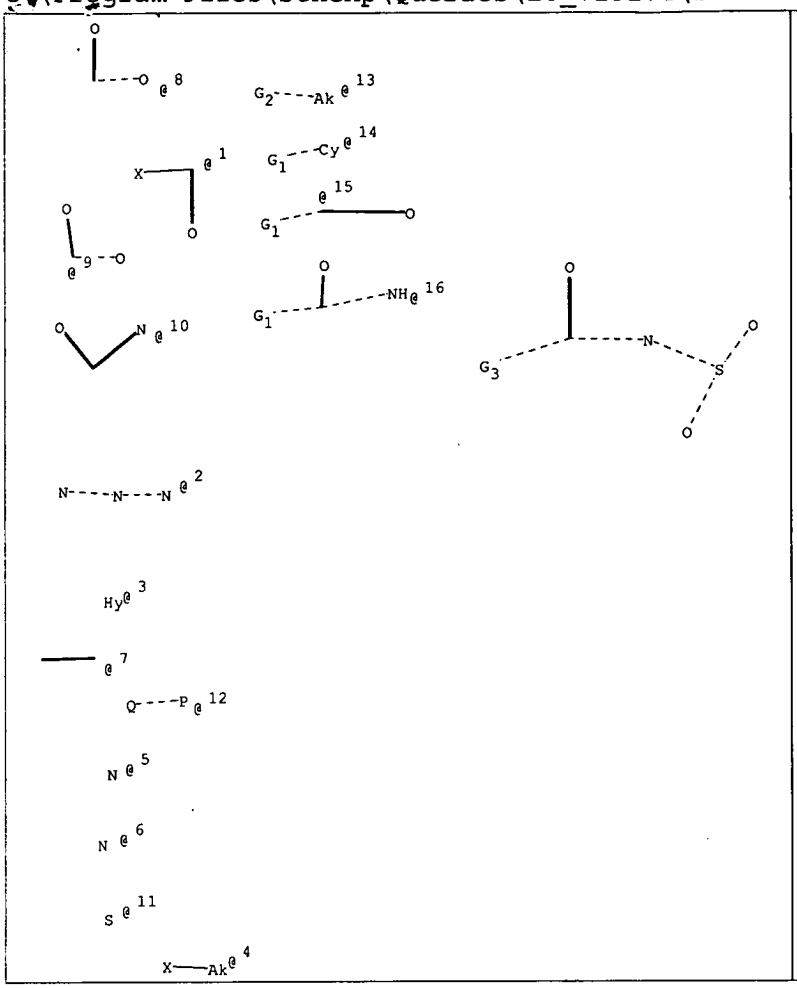
G9:[*5],[*9],[*10],[*6],[*7],[*11]

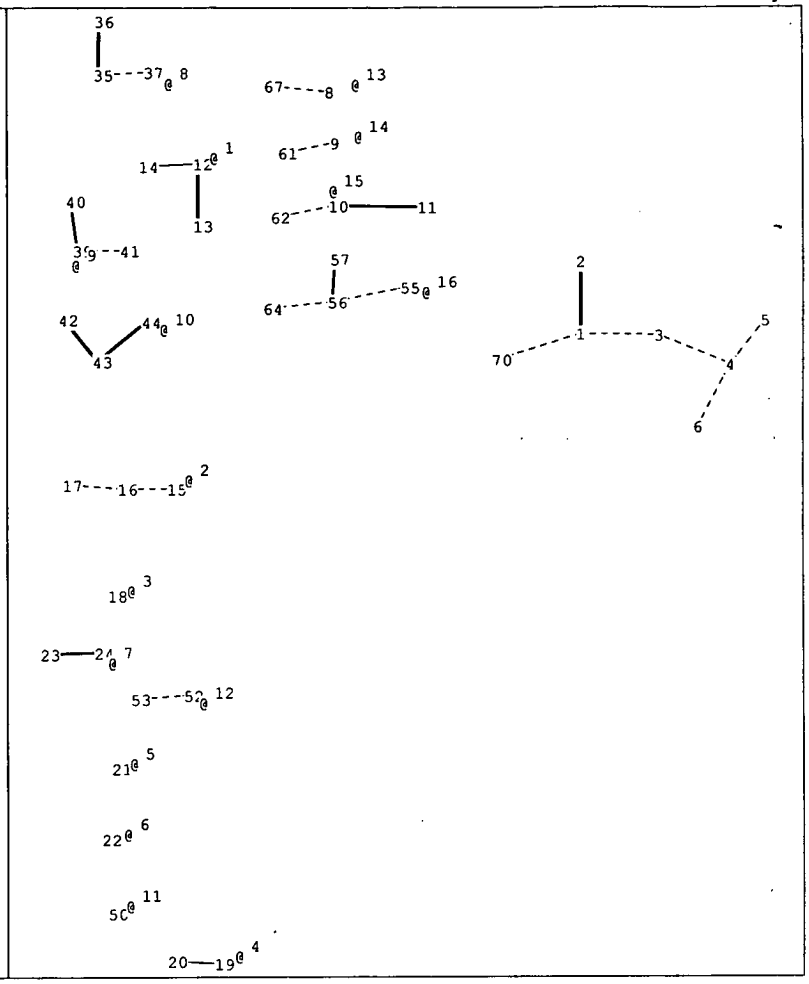
Connectivity :

4:1 E exact RC ring/chain 17:1 E exact RC ring/chain 18:1 E exact RC ring/chain
32:1 E exact RC ring/chain
Match level :
1:CLASS 2:CLASS 3:CLASS 4:Atom 6:CLASS 7:Atom 8:CLASS 9:CLASS 10:CLASS 13:CLASS
14:CLASS 15:Atom 16:Atom 17:CLASS 18:CLASS 20:Atom 21:CLASS 22:Atom 28:CLASS
29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 37:CLASS 41:CLASS 44:Atom 45:CLASS
48:CLASS 51:CLASS
Generic attributes :
4:
Saturation : Unsaturated

C:\Program Files\Stnexp\Queries\10_713174\shiao-ha2.str

structure L24





chain nodes :
1 2 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 23 24 35 36 37 39
40 41 42 43 44 50 52 53 55 56 57 61 62 64 67 70
ring nodes :
22
ring/chain nodes :
3 4
chain bonds :
1-2 1-3 1-70 4-5 4-6 8-67 9-61 10-11 10-62 12-13 12-14 15-16 16-17 19-20
23-24 35-36 35-37 39-40 39-41 42-43 43-44 52-53 55-56 56-57 56-64
ring/chain bonds :
3-4
exact/norm bonds :
1-2 1-3 1-70 3-4 4-5 4-6 8-67 9-61 10-11 10-62 12-13 15-16 16-17 19-20
35-36 35-37 39-40 39-41 42-43 43-44 52-53 55-56 56-57 56-64
exact bonds :
12-14 23-24

G1:OH,SH,CN,Si,[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G2:OH,SH,CN,Si,[*1],[*2],[*3],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G3:OH,SH,CN,Si,[*13],[*14],[*15],[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]
,[*16]

Connectivity :

5:1 E exact RC ring/chain 6:1 E exact RC ring/chain 21:3 E exact RC ring/chain
43:2 E exact RC ring/chain 50:2 E exact RC ring/chain
Match level :
1:CLASS 2:CLASS 3:Atom 4:Atom 5:CLASS 6:CLASS 8:CLASS 9:Atom 10:CLASS 11:CLASS
12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:Atom 19:CLASS 20:CLASS
21:CLASS 22:Atom 23:CLASS 24:CLASS 35:CLASS 36:CLASS 37:CLASS 39:CLASS 40:CLASS
41:CLASS 42:CLASS 43:CLASS 44:CLASS 50:CLASS 52:CLASS 53:CLASS 55:CLASS 56:CLASS
57:CLASS 61:CLASS 62:CLASS 64:CLASS 67:CLASS 70:CLASS
Generic attributes :
9:
Saturation : Unsaturated

Element Count :
Node 18: Limited
N,N1
C,C2
O,O0
S,S0
P,P0
Si,Si0

Node 22: Limited
N,N1

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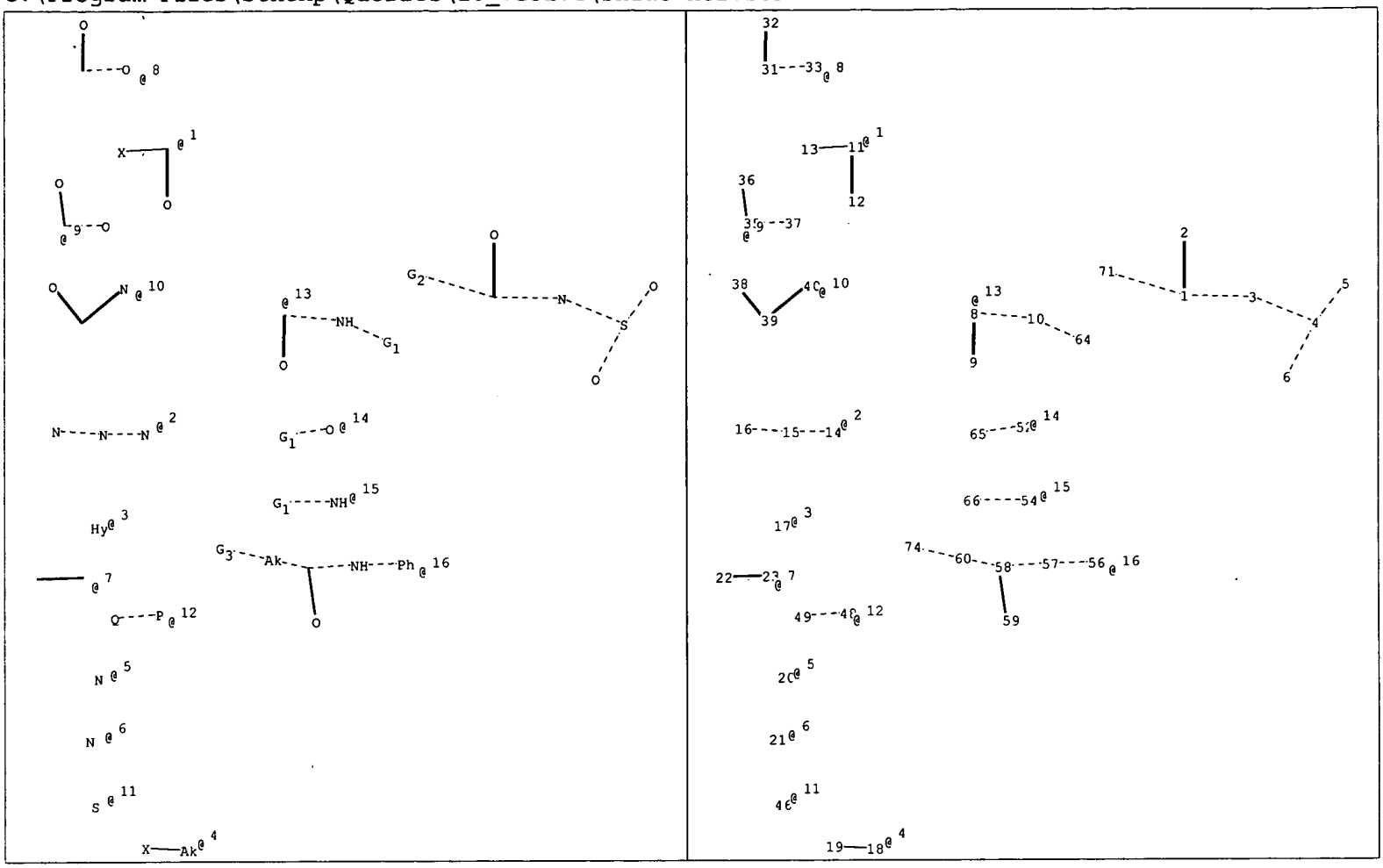
structure L28



chain nodes :
1 2 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 22 23 31 32 33 35 36
37 38 39 40 46 48 49 52 54 56 57 58 59 60 64 65 66 71 74
ring nodes :
21
ring/chain nodes :
3 4
chain bonds :
1-2 1-3 1-71 4-5 4-6 8-9 8-10 10-64 11-12 11-13 14-15 15-16 18-19 22-23
31-32 31-33 35-36 35-37 38-39 39-40 48-49 52-65 54-66 56-57 57-58 58-59 58-60
60-74
ring/chain bonds :
3-4
exact/norm bonds :
1-2 1-3 1-71 3-4 4-5 4-6 8-9 8-10 10-64 11-12 14-15 15-16 18-19 31-32 31-33
35-36 35-37 38-39 39-40 48-49 52-65 54-66 56-57 57-58 58-59 58-60 60-74
exact bonds :
11-13 22-23

G1:OH,SH,CN,Si,[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G2:Si,OH,SH,CN,[*13],[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12],[*14],[*15]
,[*16]

G3:OH,SH,CN,Si,[*1],[*2],[*3],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

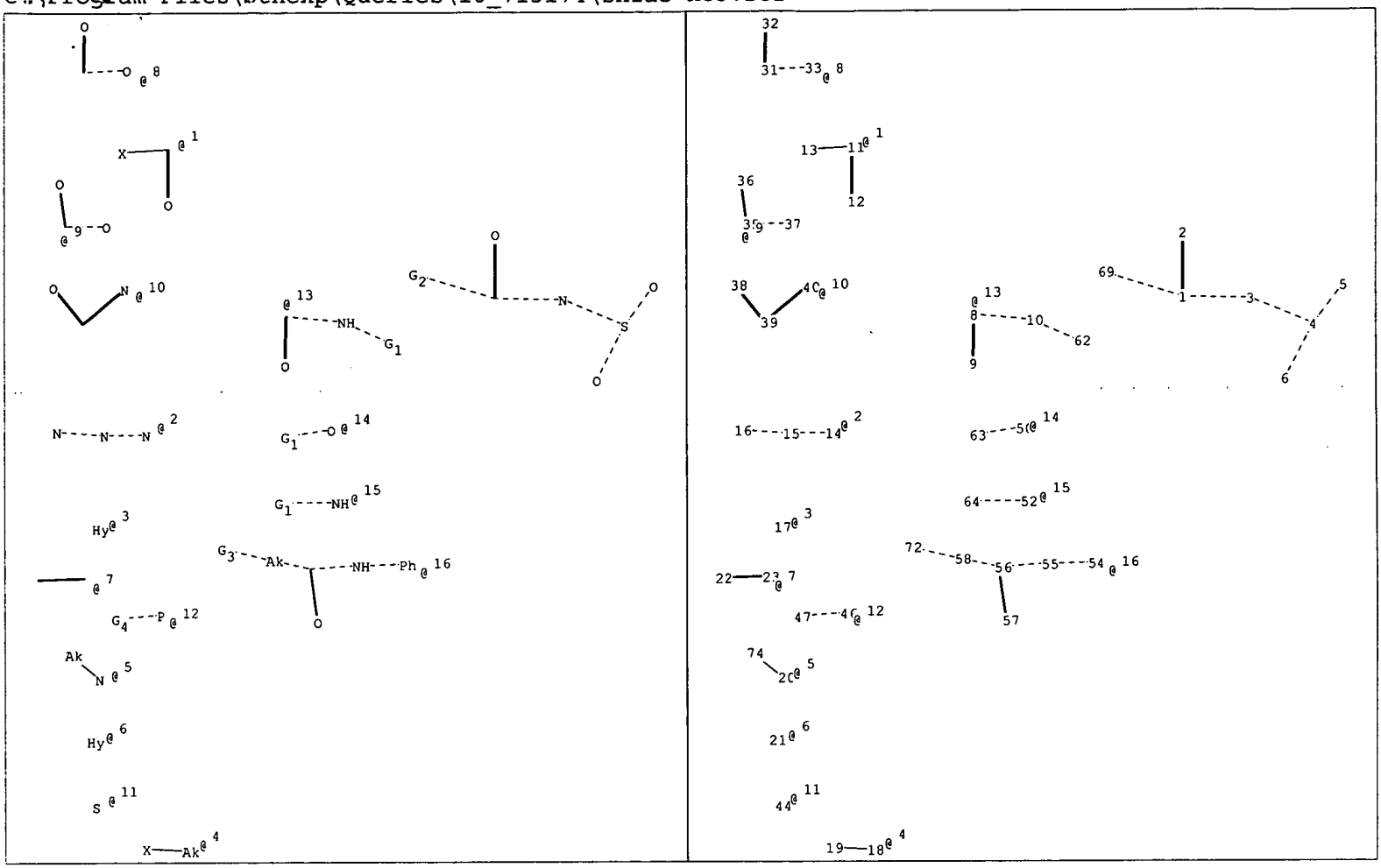
Connectivity :

```
    5:1 E exact RC ring/chain  6:1 E exact RC ring/chain  20:3 E exact RC ring/chain
    39:2 E exact RC ring/chain  46:2 E exact RC ring/chain
Match level :
    1:CLASS  2:CLASS  3:Atom  4:Atom  5:CLASS  6:CLASS  8:CLASS  9:CLASS  10:CLASS  11:CLASS
    12:CLASS  13:CLASS  14:CLASS  15:CLASS  16:CLASS  17:Atom  18:CLASS  19:CLASS  20:CLASS
    21:Atom  22:CLASS  23:CLASS  31:CLASS  32:CLASS  33:CLASS  35:CLASS  36:CLASS  37:CLASS
    38:CLASS  39:CLASS  40:CLASS  46:CLASS  48:CLASS  49:CLASS  52:CLASS  54:CLASS  56:CLASS
    57:CLASS  58:CLASS  59:CLASS  60:CLASS  64:CLASS  65:CLASS  66:CLASS  71:CLASS  74:CLASS
Element Count :
    Node 17: Limited
        N,N1
        C,C2
        O,O0
        S,S0
        P,P0
        Si,Si0

    Node 21: Limited
        N,N1
```

C:\Program Files\Stnexp\Queries\10_713174\shiao-hc3.str

structure L34



chain nodes :
1 2 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 31 32 33 35
36 37 38 39 40 44 46 47 50 52 54 55 56 57 58 62 63 64 69 72 74
ring/chain nodes :
3 4
chain bonds :
1-2 1-3 1-69 4-5 4-6 8-9 8-10 10-62 11-12 11-13 14-15 15-16 18-19 20-74
22-23 31-32 31-33 35-36 35-37 38-39 39-40 46-47 50-63 52-64 54-55 55-56 56-57
56-58 58-72
ring/chain bonds :
3-4
exact/norm bonds :
1-2 1-3 1-69 3-4 4-5 4-6 8-9 8-10 10-62 11-12 14-15 15-16 18-19 20-74 31-32
31-33 35-36 35-37 38-39 39-40 46-47 50-63 52-64 54-55 55-56 56-57 56-58 58-72
exact bonds :
11-13 22-23

G1:OH,SH,CN,Si,[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G2:Si,OH,SH,CN,[*13],[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12],[*14],[*15]
,[*16]

G3:OH,SH,CN,Si,[*1],[*2],[*3],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G4:O,P

Connectivity :

5:1 E exact RC ring/chain 6:1 E exact RC ring/chain 15:2 E exact RC ring/chain
16:1 E exact RC ring/chain 17:1 E exact RC ring/chain 18:2 E exact RC ring/chain
20:3 E exact RC ring/chain 21:1 E exact RC ring/chain 22:1 E exact RC ring/chain
38:1 E exact RC ring/chain 39:2 E exact RC ring/chain 44:2 E exact RC ring/chain
50:2 E exact RC ring/chain 58:2 E exact RC ring/chain

Match level :

1:CLASS 2:CLASS 3:Atom 4:Atom 5:CLASS 6:CLASS 8:CLASS 9:CLASS 10:CLASS 11:CLASS
12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:Atom 18:CLASS 19:CLASS 20:CLASS
21:Atom 22:CLASS 23:CLASS 31:CLASS 32:CLASS 33:CLASS 35:CLASS 36:CLASS 37:CLASS
38:CLASS 39:CLASS 40:CLASS 44:CLASS 46:CLASS 47:CLASS 50:CLASS 52:CLASS 54:CLASS
55:CLASS 56:CLASS 57:CLASS 58:CLASS 62:CLASS 63:CLASS 64:CLASS 69:CLASS 72:CLASS
74:CLASS

Generic attributes :

21:
Saturation : Unsaturated

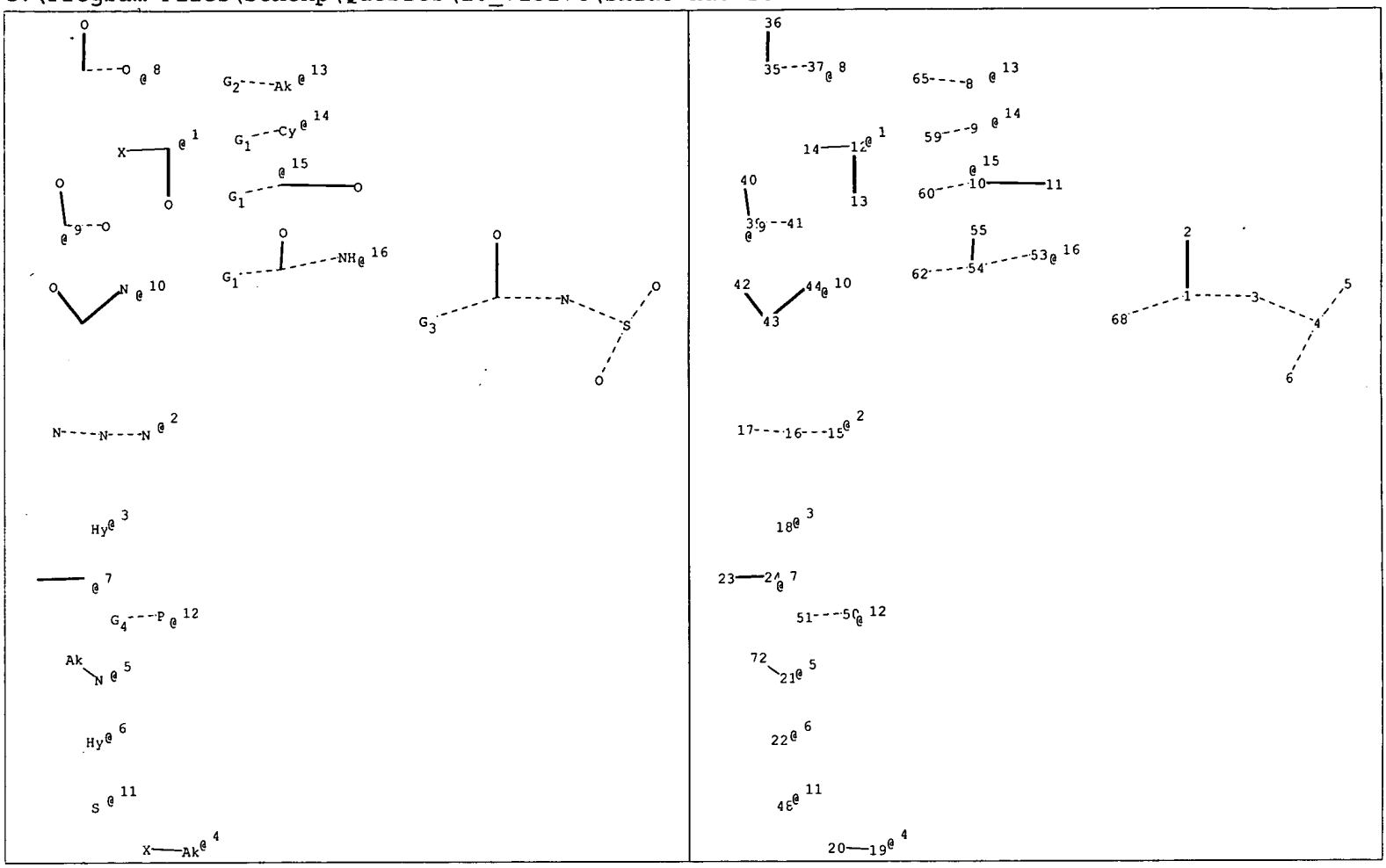
Element Count :

Node 17: Limited
Si,Si0

Node 21: Limited
N,N1

C:\Program Files\Stnexp\Queries\10_713174\shiao-ha3.str

Structure L38



chain nodes :
1 2 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 35 36 37
39 40 41 42 43 44 48 50 51 53 54 55 59 60 62 65 68 72
ring/chain nodes :
3 4
chain bonds :
1-2 1-3 1-68 4-5 4-6 8-65 9-59 10-11 10-60 12-13 12-14 15-16 16-17 19-20
21-72 23-24 35-36 35-37 39-40 39-41 42-43 43-44 50-51 53-54 54-55 54-62
ring/chain bonds :
3-4
exact/norm bonds :
1-2 1-3 1-68 3-4 4-5 4-6 8-65 9-59 10-11 10-60 12-13 15-16 16-17 19-20
21-72 35-36 35-37 39-40 39-41 42-43 43-44 50-51 53-54 54-55 54-62
exact bonds :
12-14 23-24

G1:OH,SH,CN,Si,[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G2:OH,SH,CN,Si,[*1],[*2],[*3],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G3:OH,SH,CN,Si,[*13],[*14],[*15],[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]
,[*16]

G4:O,P

Connectivity :

5:1 E exact RC ring/chain 6:1 E exact RC ring/chain 8:2 E exact RC ring/chain
9:2 E exact RC ring/chain 16:2 E exact RC ring/chain 17:1 E exact RC ring/chain
18:1 E exact RC ring/chain 19:2 E exact RC ring/chain 21:3 E exact RC ring/chain
22:1 E exact RC ring/chain 23:1 E exact RC ring/chain 42:1 E exact RC ring/chain
43:2 E exact RC ring/chain 48:2 E exact RC ring/chain

Match level :

1:CLASS 2:CLASS 3:Atom 4:Atom 5:CLASS 6:CLASS 8:CLASS 9:Atom 10:CLASS 11:CLASS
12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:Atom 19:CLASS 20:CLASS
21:CLASS 22:Atom 23:CLASS 24:CLASS 35:CLASS 36:CLASS 37:CLASS 39:CLASS 40:CLASS
41:CLASS 42:CLASS 43:CLASS 44:CLASS 48:CLASS 50:CLASS 51:CLASS 53:CLASS 54:CLASS
55:CLASS 59:CLASS 60:CLASS 62:CLASS 65:CLASS 68:CLASS 72:CLASS

Generic attributes :

9:
Saturation : Unsaturated
22:
Saturation : Unsaturated

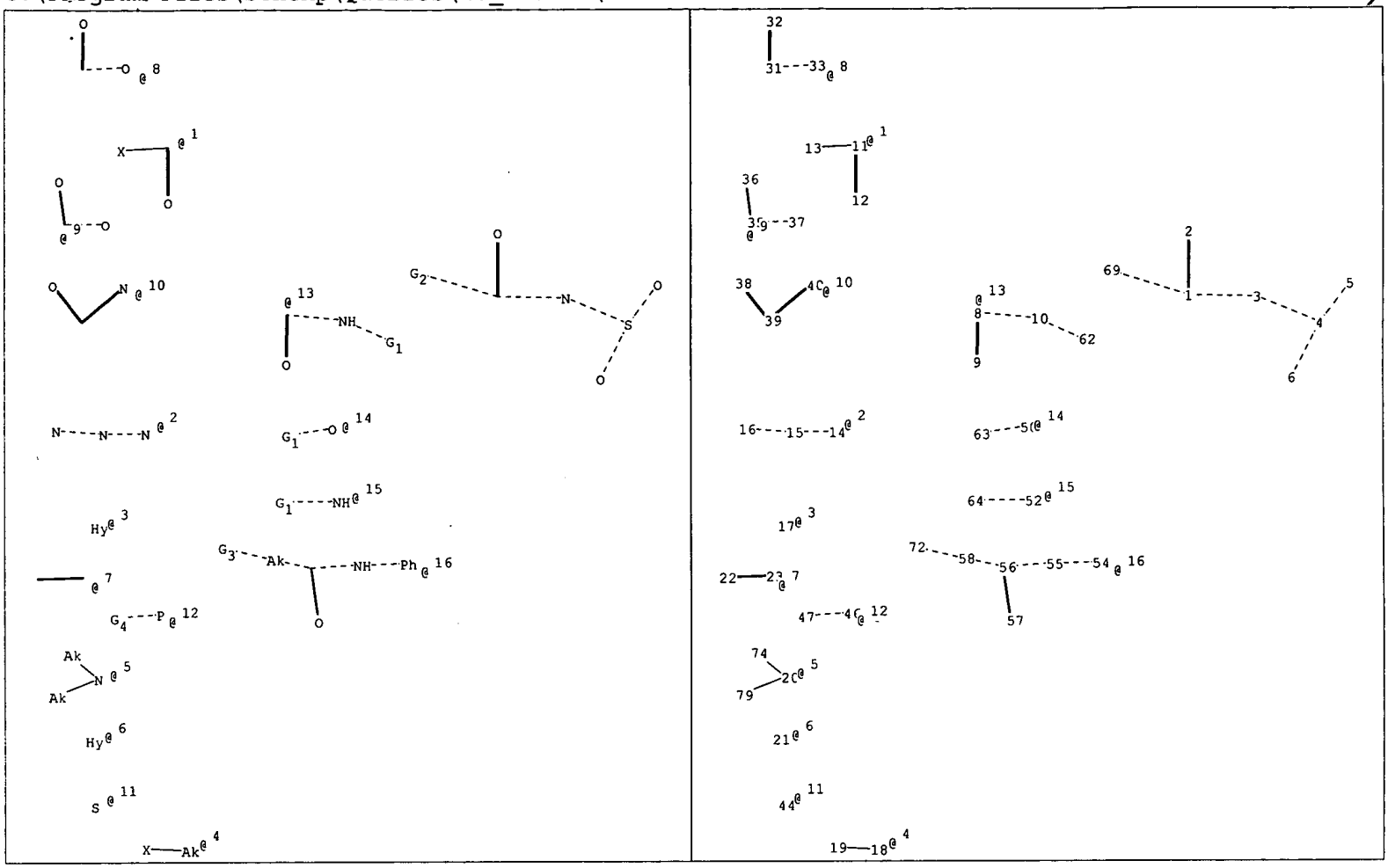
Element Count :

Node 18: Limited
Si,Si0

Node 22: Limited
N,N1

C:\Program Files\Stnexp\Queries\10_713174\shiao-hc4.str

Structure L44



chain nodes :
1 2 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 31 32 33 35
36 37 38 39 40 44 46 47 50 52 54 55 56 57 58 62 63 64 69 72 74 79
ring/chain nodes :
3 4
chain bonds :
1-2 1-3 1-69 4-5 4-6 8-9 8-10 10-62 11-12 11-13 14-15 15-16 18-19 20-74
20-79 22-23 31-32 31-33 35-36 35-37 38-39 39-40 46-47 50-63 52-64 54-55 55-56
56-57 56-58 58-72
ring/chain bonds :
3-4
exact/norm bonds :
1-2 1-3 1-69 3-4 4-5 4-6 8-9 8-10 10-62 11-12 14-15 15-16 18-19 20-74 20-79
31-32 31-33 35-36 35-37 38-39 39-40 46-47 50-63 52-64 54-55 55-56 56-57 56-58
58-72
exact bonds :
11-13 22-23

G1:OH,SH,CN,Si,[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G2:Si,OH,SH,CN,[*13],[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12],[*14],[*15]
,[*16]

G3:OH,SH,CN,Si,[*1],[*2],[*3],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G4:O,P

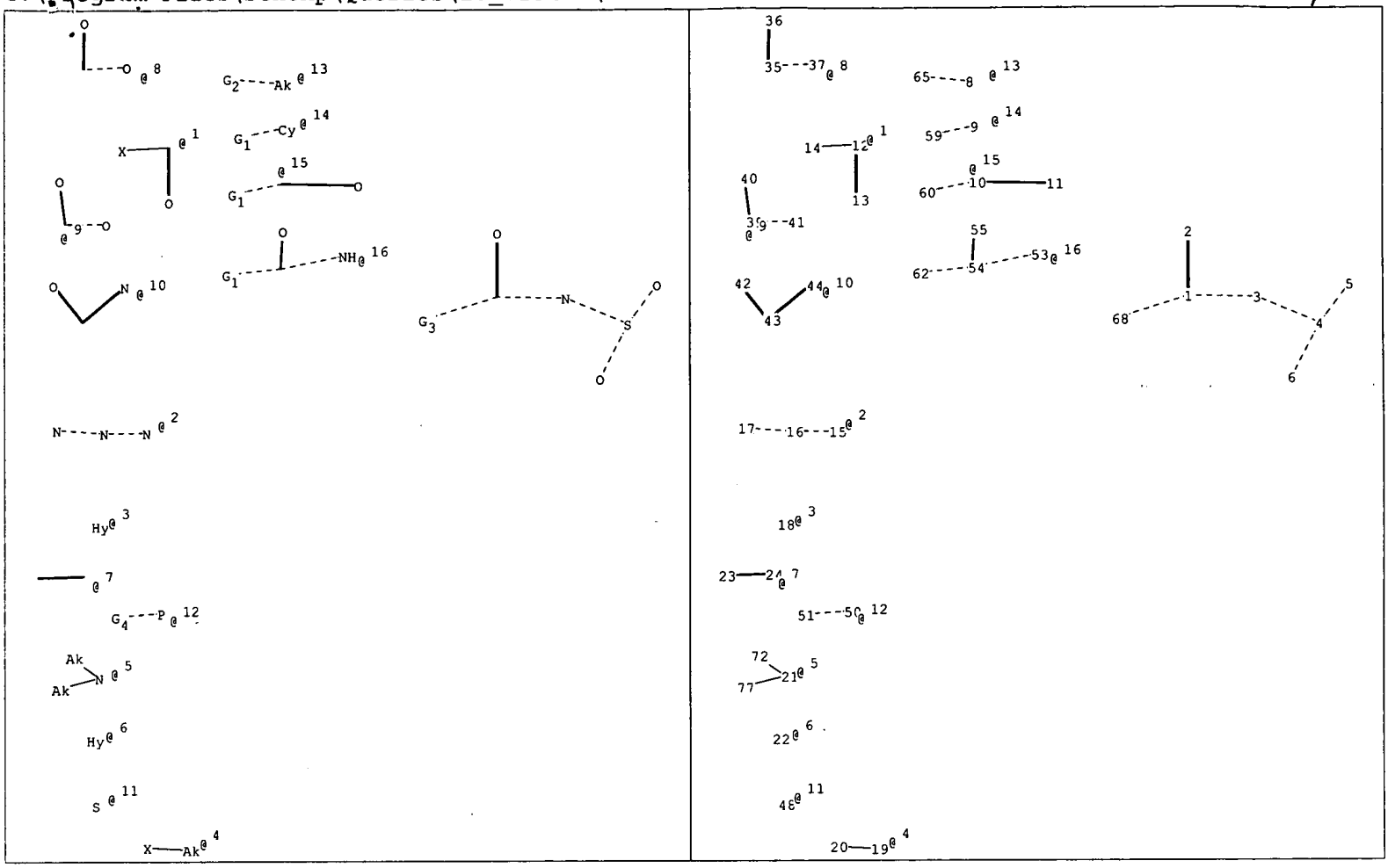
```
Connectivity :
    5:1 E exact RC ring/chain  6:1 E exact RC ring/chain  15:2 E exact RC ring/chain
    16:1 E exact RC ring/chain  17:1 E exact RC ring/chain  18:2 E exact RC ring/chain
    20:3 E exact RC ring/chain  21:1 E exact RC ring/chain  22:1 E exact RC ring/chain
    38:1 E exact RC ring/chain  39:2 E exact RC ring/chain  44:2 E exact RC ring/chain
    50:2 E exact RC ring/chain  58:2 E exact RC ring/chain  74:1 E exact RC ring/chain
    79:1 E exact RC ring/chain
Match level :
    1:CLASS  2:CLASS  3:Atom  4:Atom  5:CLASS  6:CLASS  8:CLASS  9:CLASS  10:CLASS  11:CLASS
    12:CLASS  13:CLASS  14:CLASS  15:CLASS  16:CLASS  17:Atom  18:CLASS  19:CLASS  20:CLASS
    21:Atom  22:CLASS  23:CLASS  31:CLASS  32:CLASS  33:CLASS  35:CLASS  36:CLASS  37:CLASS
    38:CLASS  39:CLASS  40:CLASS  44:CLASS  46:CLASS  47:CLASS  50:CLASS  52:CLASS  54:CLASS
    55:CLASS  56:CLASS  57:CLASS  58:CLASS  62:CLASS  63:CLASS  64:CLASS  69:CLASS  72:CLASS
    74:CLASS  79:CLASS
Generic attributes :
    21:
    Saturation              : Unsaturated

Element Count :
    Node 17: Limited
        Si,Si0

    Node 21: Limited
        N,N1
```

C:\Program Files\Stnexp\Queries\10_713174\shiao-ha4.str

Structure 47



chain nodes :
1 2 5 6 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 35 36 37
39 40 41 42 43 44 48 50 51 53 54 55 59 60 62 65 68 72 77
ring/chain nodes :
3 4
chain bonds :
1-2 1-3 1-68 4-5 4-6 8-65 9-59 10-11 10-60 12-13 12-14 15-16 16-17 19-20
21-72 21-77 23-24 35-36 35-37 39-40 39-41 42-43 43-44 50-51 53-54 54-55 54-62
ring/chain bonds :
3-4
exact/norm bonds :
1-2 1-3 1-68 3-4 4-5 4-6 8-65 9-59 10-11 10-60 12-13 15-16 16-17 19-20
21-72 21-77 35-36 35-37 39-40 39-41 42-43 43-44 50-51 53-54 54-55 54-62
exact bonds :
12-14 23-24

G1:OH,SH,CN,Si,[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G2:OH,SH,CN,Si,[*1],[*2],[*3],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]

G3:OH,SH,CN,Si,[*13],[*14],[*15],[*1],[*2],[*3],[*4],[*5],[*6],[*7],[*8],[*9],[*10],[*11],[*12]
,[*16]

G4:O,P

Connectivity :

5:1 E exact RC ring/chain 6:1 E exact RC ring/chain 8:2 E exact RC ring/chain
9:2 E exact RC ring/chain 16:2 E exact RC ring/chain 17:1 E exact RC ring/chain
18:1 E exact RC ring/chain 19:2 E exact RC ring/chain 21:3 E exact RC ring/chain
22:1 E exact RC ring/chain 23:1 E exact RC ring/chain 42:1 E exact RC ring/chain
43:2 E exact RC ring/chain 48:2 E exact RC ring/chain 72:1 E exact RC ring/chain
77:1 E exact RC ring/chain

Match level :

1:CLASS 2:CLASS 3:Atom 4:Atom 5:CLASS 6:CLASS 8:CLASS 9:Atom 10:CLASS 11:CLASS
12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:Atom 19:CLASS 20:CLASS
21:CLASS 22:Atom 23:CLASS 24:CLASS 35:CLASS 36:CLASS 37:CLASS 39:CLASS 40:CLASS
41:CLASS 42:CLASS 43:CLASS 44:CLASS 48:CLASS 50:CLASS 51:CLASS 53:CLASS 54:CLASS
55:CLASS 59:CLASS 60:CLASS 62:CLASS 65:CLASS 68:CLASS 72:CLASS 77:CLASS

Generic attributes :

9:
Saturation : Unsaturated
22:
Saturation : Unsaturated

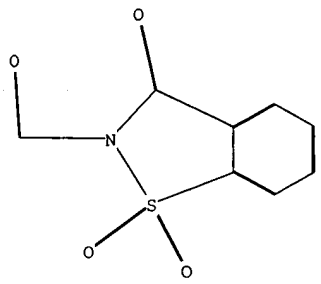
Element Count :

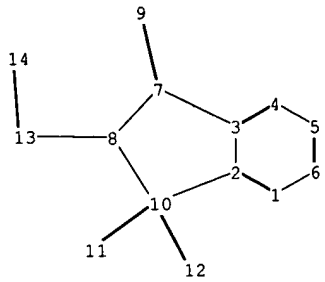
Node 18: Limited
Si,Si0

Node 22: Limited
N,N1

C:\Program Files\Stnexp\Queries\10_713174\claim9.str

Structure L70





chain nodes :
9 11 12 13 14
ring nodes :
1 2 3 4 5 6 7 8 10
chain bonds :
7-9 8-13 10-11 10-12 13-14
ring bonds :
1-2 1-6 2-3 2-10 3-4 3-7 4-5 5-6 7-8 8-10
exact/norm bonds :
2-10 3-7 7-8 7-9 8-10 8-13 10-11 10-12 13-14
normalized bonds :
1-2 1-6 2-3 3-4 4-5 5-6

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:CLASS 10:Atom
11:CLASS 12:CLASS 13:CLASS 14:CLASS

AUTHOR SEARCH

Shiao 10/713174 12/29/2005

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```
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*                                                                    *
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```
=> d stat que nos L111
L3              STR
L4         9125 SEA FILE=REGISTRY SSS FUL L3
L86         145 SEA FILE=CAPLUS ABB=ON  PLU=ON  BENSON K?/AU
L87         959 SEA FILE=CAPLUS ABB=ON  PLU=ON  DAVID M?/AU
L88          26 SEA FILE=CAPLUS ABB=ON  PLU=ON  KIPKE C?/AU
L89          65 SEA FILE=CAPLUS ABB=ON  PLU=ON  LAKSHMI B?/AU
L90          52 SEA FILE=CAPLUS ABB=ON  PLU=ON  LEIR C?/AU
L91        2193 SEA FILE=CAPLUS ABB=ON  PLU=ON  MOORE G?/AU
L92        1869 SEA FILE=CAPLUS ABB=ON  PLU=ON  SHAH R?/AU
L93           4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89
                AND L90 AND L91 AND L92
L94           4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89
                AND L90 AND L91
L95           4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89
                AND L90 AND L92
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                AND L91 AND L92
L97           4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L90
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L98           4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L89 AND L90
                AND L91 AND L92
L99           6 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L88 AND L89 AND L90
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L101          4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89
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L102          4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89
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L103          4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L91
                AND L92
L104          4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L87 AND L90 AND L91
                AND L92
L105          7 SEA FILE=CAPLUS ABB=ON  PLU=ON  L86 AND L89 AND L90 AND L91
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L106          6 SEA FILE=CAPLUS ABB=ON  PLU=ON  L88 AND L89 AND L90 AND L91
                AND L92
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                L97 OR L98 OR L99 OR L100 OR L101 OR L102 OR L103 OR L104 OR
                L105 OR L106)
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L110          5 SEA FILE=CAPLUS ABB=ON  PLU=ON  L107 AND L109
L111          7 SEA FILE=CAPLUS ABB=ON  PLU=ON  L107 OR L110
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L111 ANSWER 1 OF 7  CAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:        2005:1106693  CAPLUS
DOCUMENT NUMBER:         143:382399
TITLE:                   Preparation of N-sulfonyldicarboximide containing
                         tethering compounds and use to immobilize an
                         amine-containing material to a substrate
```

INVENTOR(S): **Benson, Karl E.; David, Moses M.; Kipke, Cary A.; Lakshmi, Brinda B.; Leir, Charles M.; Moore, George G. I. ; Shah, Rahul R.**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 57 pp., Cont.-in-part of U.S. Ser. No. 714,053.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005227076	A1	20051013	US 2004-987075	20041112
US 2005106709	A1	20050519	US 2003-714053	20031114
WO 2005066092	A2	20050721	WO 2004-US42382	20041217
WO 2005066092	A3	20051013		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2003-714053	A2	20031114
US 2003-533169P	P	20031230
US 2004-987075	A	20041112
US 2004-987522	A	20041112

AB Compds. having two reactive functional groups are described that can be used as a tethering compound to immobilize an amine-containing material to a substrate. The first reactive functional group can be used to provide attachment to a surface of a substrate. The second reactive functional group is a N-sulfonyldicarboximide group that can be reacted with an amine-containing material, particularly a primary aliphatic amine, to form a connector group between the substrate and the amine-containing material. The invention also provides articles and methods for immobilizing amine-containing materials to a substrate.

IC ICM B32B027-00
ICS C07D207-00
INCL 428407000; 428473500; 428480000; 548400000
CC 9-16 (Biochemical Methods)
Section cross-reference(s): 27, 28

L111 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:638840 CAPLUS
DOCUMENT NUMBER: 143:153936
TITLE: Multifunctional compounds having terminal acylsulfonamide groups as amine capture agents
INVENTOR(S): **Benson, Karl E.; Kipke, Cary A.; Lakshmi, Brinda B.; Leir, Charles M. ; Moore, George G. I.; Shah, Rahul**
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 36 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005066121	A2	20050721	WO 2004-US43621	20041229
WO 2005066121	A3	20050811		
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WO 2005064349	A2	20050714	WO 2004-US42455	20041217
WO 2005064349	A3	20051110		
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WO 2005075973	A2	20050818	WO 2004-US42662	20041217
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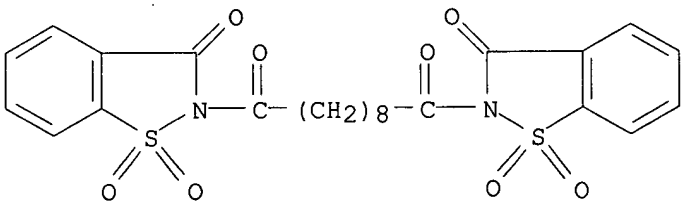
PRIORITY APPLN. INFO.: US 2003-533169P P 20031230
US 2004-15543 A 20041217

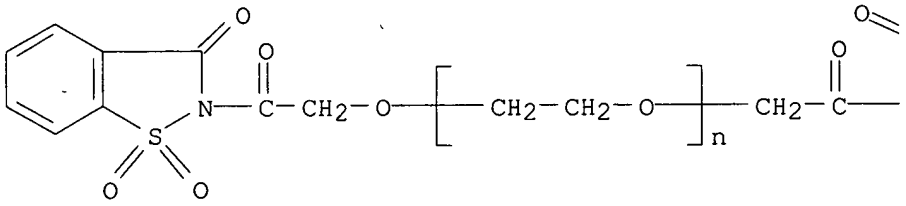
AB Multifunctional compds. having acylsulfonamide amine-reactive groups are described and can be used for the immobilization and crosslinking of amine-containing materials. Thus, 10 mL SOCl2 was added to a mixture of PEG 600 diacid [30 g, 0.05 mol, poly(ethylene glycol) bis(carboxymethyl) ether; d.p. 14] in 100 mL CH2Cl2 with immediate evolution of HCl, after 20 h, the solvent was removed under vacuum to give 33.6 g pale yellow oil, of this, 6.4 g (0.01 mol) was added to dry Na saccharin (4.1 g, 0.02 mol). The resulting slurry was stirred for 24 h, filtered, and dried under vacuum to give the desired post terminated polyethylene glycol as a pale tan syrup in yield 9.3 g.

IC ICM C07D207-00
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 27, 28, 37
IT **859500-21-3P 859500-22-4P** 859500-23-5P 859500-24-6P
859500-25-7P 859500-26-8P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(multifunctional compds. having terminal acylsulfonamide groups for immobilization or crosslinking amine materials)
IT **859500-21-3P 859500-22-4P**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(multifunctional compds. having terminal acylsulfonamide groups for immobilization or crosslinking amine materials)
RN 859500-21-3 CAPLUS
CN 1,2-Benzisothiazol-3(2H)-one, 2,2'-(1,10-dioxo-1,10-decanediyl)bis-, 1,1,1',1'-tetraoxide (9CI) (CA INDEX NAME)

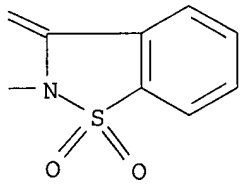


RN 859500-22-4 CAPLUS
CN Poly(oxy-1,2-ethanediyl), α-[2-(1,1-dioxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)-2-oxoethyl]-ω-[2-(1,1-dioxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)-2-oxoethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L111 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:638826 CAPLUS
DOCUMENT NUMBER: 143:149406
TITLE: Acoustic sensors and methods
INVENTOR(S): Baetzold, John P.; **Benson, Karl E.**; Bommarito, Mario G.; Daniels, Michael P.; Everaerts, Albert I.; Flanigan, Peggy-Jean P.; Free, Benton M.; **Kipke, Cary A.**; **Lakshmi, Brinda B.**; **Leir, Charles M.**; **Moore, George G. I.** ; Nguyen, Lang N.; **Shah, Rahul**; Stark, Peter A.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 128 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005066092	A2	20050721	WO 2004-US42382	20041217
WO 2005066092	A3	20051013		
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2005112672	A1	20050526	US 2004-987522	20041112
US 2005227076	A1	20051013	US 2004-987075	20041112
WO 2005064349	A2	20050714	WO 2004-US42455	20041217
WO 2005064349	A3	20051110		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM				
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WO 2005075973	A2	20050818	WO 2004-US42662	20041217
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MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2003-533169P	P	20031230
US 2004-987075	A	20041112
US 2004-987522	A	20041112
US 2003-713174	A2	20031114
US 2003-714053	A2	20031114

AB This article discloses acoustic sensors, preferably surface acoustic wave sensors, and more preferably shear horizontal surface acoustic wave sensors that include soluble polymers, monomers (optionally mixed with oligomers and/or polymers formed from such monomers), or multifunctional compds., for example, that can function as either waveguide materials, immobilization materials for secondary capture agents (e.g., antibodies), or both.

IC ICM C03C017-00

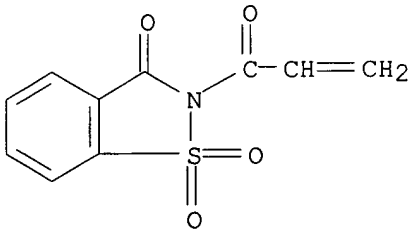
CC 9-1 (Biochemical Methods)

IT 26249-38-7P **41643-17-8P** 56992-87-1P **851778-65-9P**
851934-33-3P 851934-43-5P 851934-44-6P 851934-46-8P 851934-47-9P
851934-48-0P 851934-76-4P **852233-93-3P 852233-95-5P**
859232-48-7P 859232-49-8P **859500-21-3P** 860032-10-6P
860032-11-7P 860032-12-8P 860032-13-9P 860032-14-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(acoustic sensors and methods)

IT **41643-17-8P 851778-65-9P 852233-93-3P**
852233-95-5P 859500-21-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(acoustic sensors and methods)

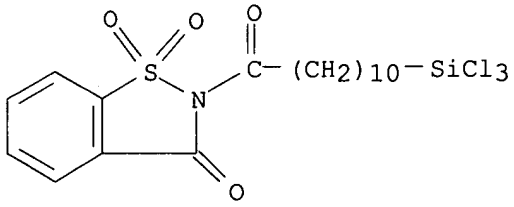
RN 41643-17-8 CAPLUS

CN 1,2-Benzisothiazol-3(2H)-one, 2-(1-oxo-2-propenyl)-, 1,1-dioxide (9CI) (CA INDEX NAME)



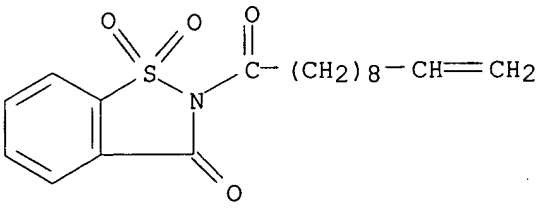
RN 851778-65-9 CAPLUS

CN 1,2-Benzisothiazol-3(2H)-one, 2-[1-oxo-11-(trichlorosilyl)undecyl]-, 1,1-dioxide (9CI) (CA INDEX NAME)

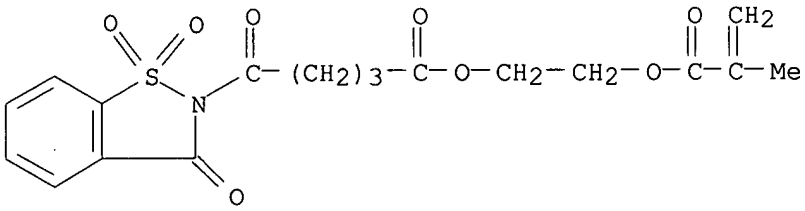


RN 852233-93-3 CAPLUS

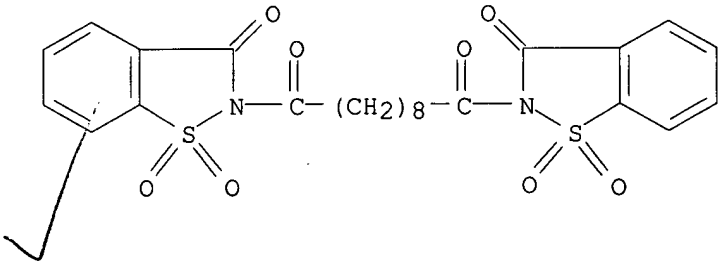
CN 1,2-Benzisothiazol-3(2H)-one, 2-(1-oxo-10-undecenyl)-, 1,1-dioxide (9CI) (CA INDEX NAME)



RN 852233-95-5 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-pentanoic acid, δ,3-dioxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, 1,1-dioxide (9CI) (CA INDEX NAME)



RN 859500-21-3 CAPLUS
CN 1,2-Benzisothiazol-3(2H)-one, 2,2'-(1,10-dioxo-1,10-decanediyl)bis-, 1,1,1',1'-tetraoxide (9CI) (CA INDEX NAME)



L111 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:638661 CAPLUS
DOCUMENT NUMBER: 143:134114
TITLE: Soluble polymers as amine capture agents and methods
INVENTOR(S): **Benson, Karl E.**; Bommarito, G. Marco; Everaerts, Albert I.; **Lakshmi, Brinda B.**; **Leir, Charles M.**; **Moore, George G. I.**; **Shah, Rahul R.**; Stark, Peter A.
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005065370	A2	20050721	WO 2004-US43917	20041229

WO 2005065370 A3 20050811
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WO 2005064349 A2 20050714 WO 2004-US42455 20041217
WO 2005064349 A3 20051110
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WO 2005075973 A2 20050818 WO 2004-US42662 20041217
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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2003-533169P P 20031230
US 2004-15399 A 20041217

AB The invention relates to soluble polymers and methods for the preparation thereof,
wherein the polymers of the present invention have pendant acylsulfonamide amine-reactive groups that can be used for the capture of amine containing materials. Thus, mixing 154 mL DMF with 4-carboxybenzenesulfonamide (I) 30.0, succinic anhydride 16.41 and triethylamine 33.19 g at 50° under N for 4 h, after cooling to room temperature, combining the resulting mixture with 18.27 mL Ac2O, stirring for 1 h and working up gave a N-succinimide compound of I which was converted to an acyl chloride using thionyl chloride. Esterifying the succinimide with 2-hydroxyethyl methacrylate and polymerizing the resulting ester with a comonomer gave a polymer having amine-reactive pendant.

IC ICM C08L
CC 37-3 (Plastics Manufacture and Processing)
IT 859232-50-1P 859232-51-2P 859232-52-3P **859232-53-4P** **859232-54-5P** 859232-55-6P 859232-56-7P 859232-57-8P 859232-58-9P **859232-59-0P** **859232-60-3P** **859232-61-4P** **859232-62-5P**
RL: ARU (Analytical role, unclassified); IMF (Industrial manufacture); ANST (Analytical study); PREP (Preparation)

(manufacture of soluble polymers as amine capture agents and method of use)

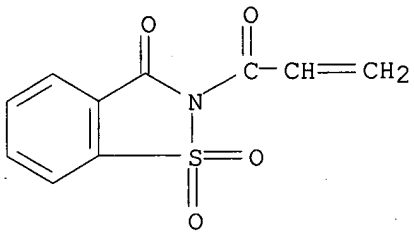
IT 22808-73-7P, 4-Methoxycarbonylbenzenesulfonamide **41643-17-8P,**
2-Acryloylsaccharin 56992-87-1P, 4-Methacrylamidobenzenesulfonamide
851934-33-3P 851934-34-4P 851934-46-8P 851934-47-9P 851934-76-4P
852233-95-5P 859232-47-6P 859232-48-7P 859232-49-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of soluble polymers as amine capture agents and method of use)

IT **859232-53-4P 859232-54-5P 859232-59-0P**
859232-60-3P 859232-61-4P 859232-62-5P
RL: ARU (Analytical role, unclassified); IMF (Industrial manufacture); ANST (Analytical study); PREP (Preparation)
(manufacture of soluble polymers as amine capture agents and method of use)

RN 859232-53-4 CAPLUS
CN 2-Propenoic acid, methyl ester, polymer with 2-(1-oxo-2-propenyl)-1,2-benzisothiazol-3(2H)-one 1,1-dioxide (9CI) (CA INDEX NAME)

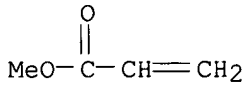
CM 1

CRN 41643-17-8
CMF C10 H7 N O4 S



CM 2

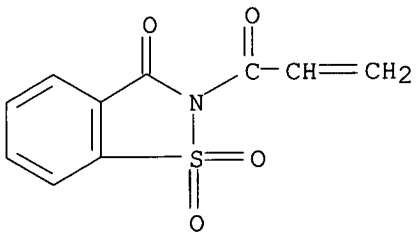
CRN 96-33-3
CMF C4 H6 O2



RN 859232-54-5 CAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 2-(1-oxo-2-propenyl)-1,2-benzisothiazol-3(2H)-one 1,1-dioxide (9CI) (CA INDEX NAME)

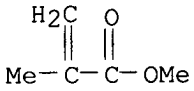
CM 1

CRN 41643-17-8
CMF C10 H7 N O4 S



CM 2

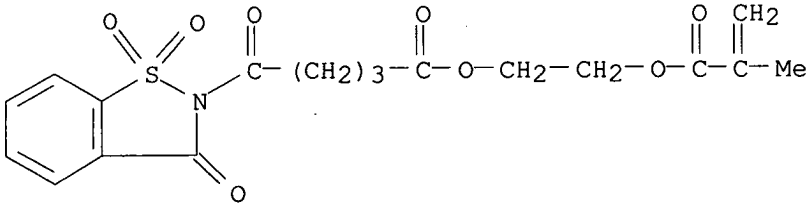
CRN 80-62-6
CMF C5 H8 O2



RN 859232-59-0 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-pentanoic acid, δ,3-dioxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, 1,1-dioxide, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

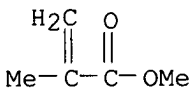
CM 1

CRN 852233-95-5
CMF C18 H19 N O8 S



CM 2

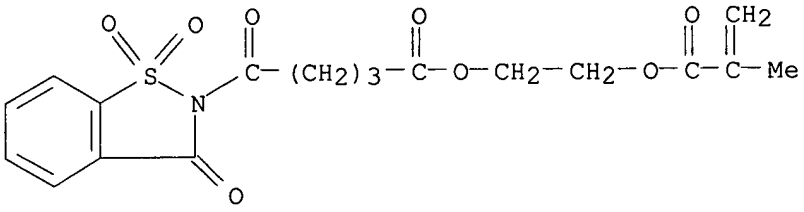
CRN 80-62-6
CMF C5 H8 O2



RN 859232-60-3 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-pentanoic acid, δ,3-dioxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, 1,1-dioxide, polymer with benzoylphenyl 2-propenoate and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

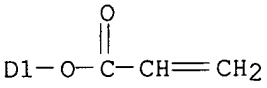
CM 1

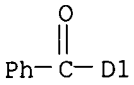
CRN 852233-95-5
CMF C18 H19 N O8 S



CM 2

CRN 50855-88-4
CMF C16 H12 O3
CCI IDS





CM 3

CRN 80-62-6
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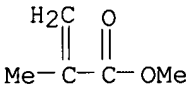
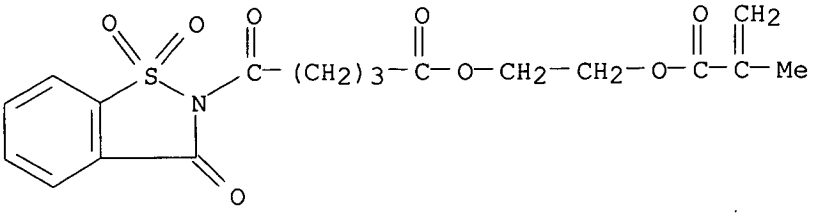


RN 859232-61-4 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-pentanoic acid, δ,3-dioxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, 1,1-dioxide, polymer with N,N-dimethyl-2-propenamide (9CI) (CA INDEX NAME)

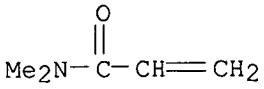
CM 1

CRN 852233-95-5
CMF C18 H19 N O8 S



CM 2

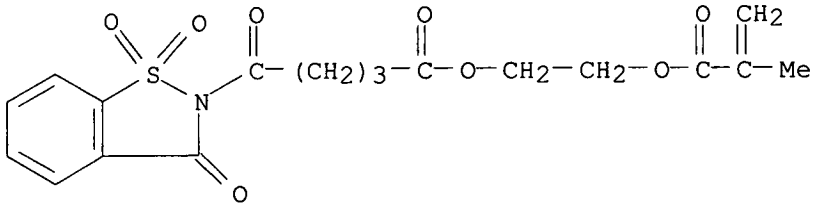
CRN 2680-03-7
CMF C5 H9 N O



RN 859232-62-5 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-pentanoic acid, δ,3-dioxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, 1,1-dioxide, polymer with methyl 2-methyl-2-propenoate and rel-(1R,2R,4R)-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

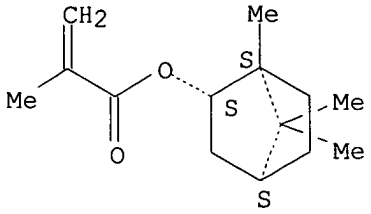
CRN 852233-95-5
CMF C18 H19 N O8 S



CM 2

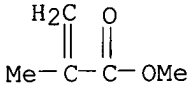
CRN 7534-94-3
CMF C14 H22 O2

Relative stereochemistry.

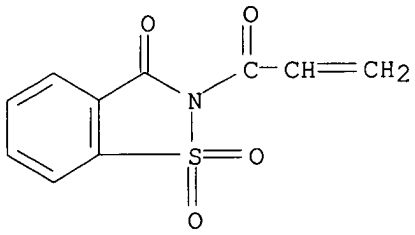


CM 3

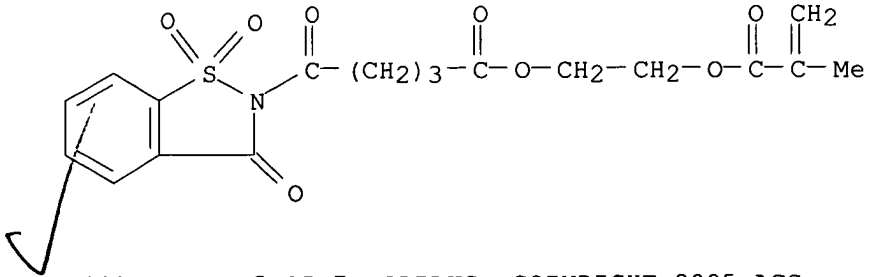
CRN 80-62-6
CMF C5 H8 O2



IT **41643-17-8P**, 2-Acryloylsaccharin **852233-95-5P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of soluble polymers as amine capture agents and method of use)
RN 41643-17-8 CAPLUS
CN 1,2-Benzisothiazol-3(2H)-one, 2-(1-oxo-2-propenyl)-, 1,1-dioxide (9CI) (CA INDEX NAME)



RN 852233-95-5 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-pentanoic acid, δ,3-dioxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, 1,1-dioxide (9CI) (CA INDEX NAME)



L111 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:453738 CAPLUS

DOCUMENT NUMBER: 142:478402
TITLE: N-sulfonylaminocarbonyl containing compounds
INVENTOR(S): **Benson, Karl E.; David, Moses M.; Kipke, Cary A.; Lakshmi, Brinda B.; Leir, Charles M.; Moore, George G. I. ; Shah, Rahul R.**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 35 pp., Cont.-in-part of U.S. Ser. No. 713,174.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005112672	A1	20050526	US 2004-987522	20041112
US 2005107615	A1	20050519	US 2003-713174	20031114
WO 2005064349	A2	20050714	WO 2004-US42455	20041217
WO 2005064349	A3	20051110		

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WO 2005066092	A2	20050721	WO 2004-US42382	20041217
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WO 2005075973	A2	20050818	WO 2004-US42662	20041217

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PRIORITY APPLN. INFO.:	US 2003-713174	A2	20031114
	US 2003-533169P	P	20031230

US 2004-987075 A 20041112
US 2004-987522 A 20041112

OTHER SOURCE(S): MARPAT 142:478402

AB Compds. having two reactive functional groups are described that can be used to provide a connector group between a substrate and an amine-containing material. The first reactive functional group can be used to provide attachment to a surface of a substrate. The second reactive functional group is a N-sulfonylaminocarbonyl group that can be reacted with an amine-containing material, particularly a primary aliphatic amine, to form a carbonylimino-containing connector group. The invention also provides articles and methods for immobilizing amine-containing materials to a substrate.

IC ICM C12Q001-68
ICS C12M001-34

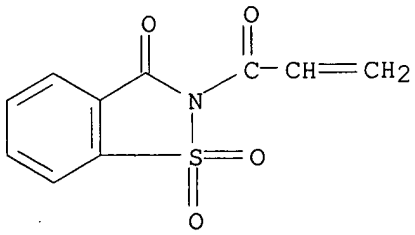
INCL 435006000; 435287200; 540601000; 546226000; 548537000; 552001000; 548954000

CC 9-15 (Biochemical Methods)
Section cross-reference(s): 10

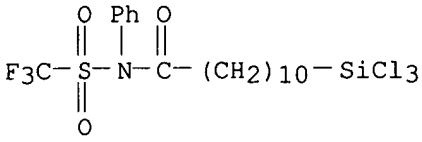
IT 929-06-6DP, 2-(2-Aminoethoxy)ethanol, reaction with methacrylate polymers
7719-09-7DP, Thionyl chloride, reaction with methacrylate polymers
23483-56-9P 25086-15-1DP, Poly(methylmethacrylate-methacrylic acid), reaction with thionyl chloride or 2-(2-aminoethoxy)ethanol
41643-17-8P 147072-47-7P 851778-52-4P 851778-53-5P
851778-54-6P 851778-55-7P **851778-58-0P 851778-59-1P**
851778-60-4P 851778-61-5P 851778-62-6P
851778-63-7P 851778-65-9P 851778-69-3P
852233-89-7P 852233-93-3P 852233-94-4P
852233-95-5P 852233-96-6P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(N-sulfonylaminocarbonyl containing compds.)

IT **41643-17-8P 851778-58-0P 851778-59-1P**
851778-60-4P 851778-61-5P 851778-62-6P
851778-63-7P 851778-65-9P 851778-69-3P
852233-89-7P 852233-93-3P 852233-94-4P
852233-95-5P 852233-96-6P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(N-sulfonylaminocarbonyl containing compds.)

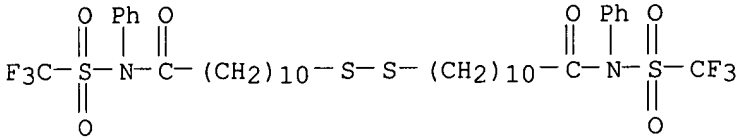
RN 41643-17-8 CAPLUS
CN 1,2-Benzisothiazol-3(2H)-one, 2-(1-oxo-2-propenyl)-, 1,1-dioxide (9CI) (CA INDEX NAME)



RN 851778-58-0 CAPLUS
CN Undecanamide, N-phenyl-11-(trichlorosilyl)-N-[(trifluoromethyl)sulfonyl]- (9CI) (CA INDEX NAME)

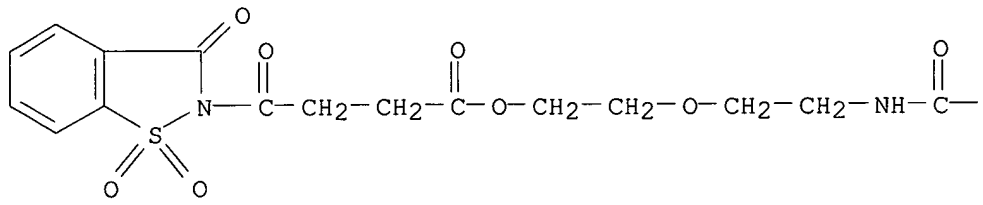


RN 851778-59-1 CAPLUS
CN Undecanamide, 11,11'-dithiobis[N-phenyl-N-[(trifluoromethyl)sulfonyl]-(9CI) (CA INDEX NAME)

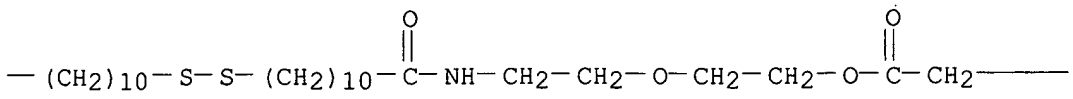


RN 851778-60-4 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-butanoic acid, γ,3-dioxo-, 7,30-dioxo-3,34-dioxa-18,19-dithia-6,31-diazahexatriacontane-1,36-diyl ester, 1,1,1',1'-tetraoxide (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



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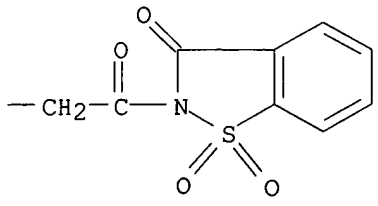
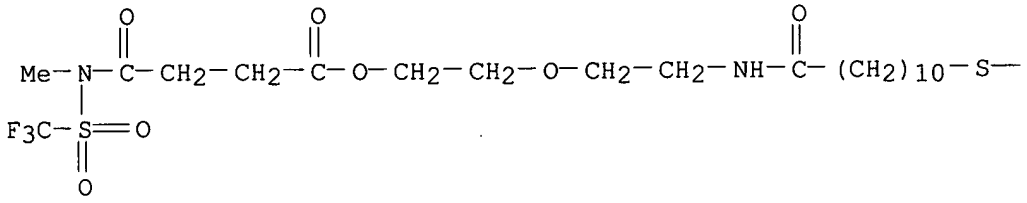


RN 851778-61-5 CAPLUS
CN Butanoic acid, 4-[methyl[(trifluoromethyl)sulfonyl]amino]-4-oxo-,

7,30-dioxo-3,34-dioxa-18,19-dithia-6,31-diazahexatriacontane-1,36-diyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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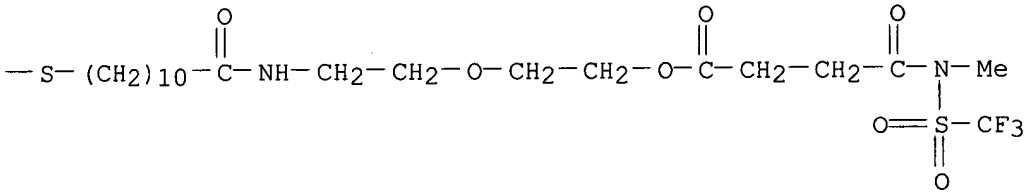

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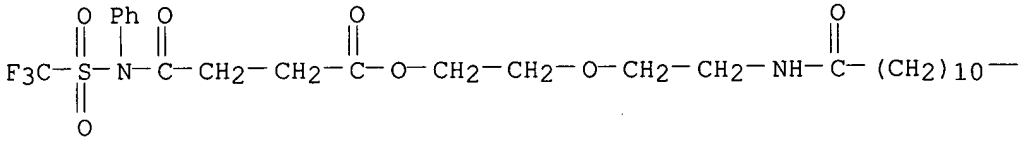
CN Butanoic acid, 4-oxo-4-[phenyl[(trifluoromethyl)sulfonyl]amino]-, 7,30-dioxo-3,34-dioxa-18,19-dithia-6,31-diazahexatriacontane-1,36-diyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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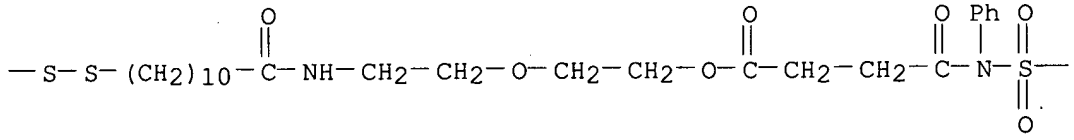
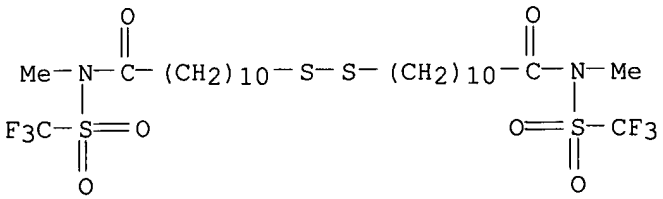


PAGE 1-C

RN 851778-63-7 CAPLUS
CN Undecanamide, 11,11'-dithiobis[N-methyl-N-[(trifluoromethyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 851778-65-9 CAPLUS
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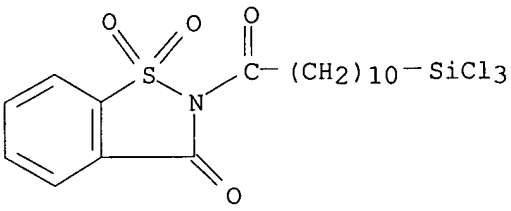
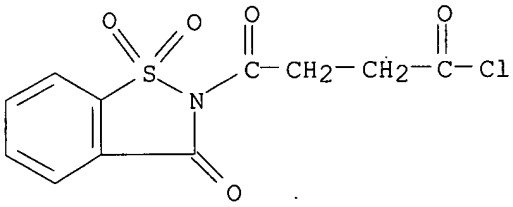


RN 851778-69-3 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-butanoyl chloride, γ,3-dioxo-, 1,1-dioxide (9CI) (CA INDEX NAME)



RN 852233-89-7 CAPLUS
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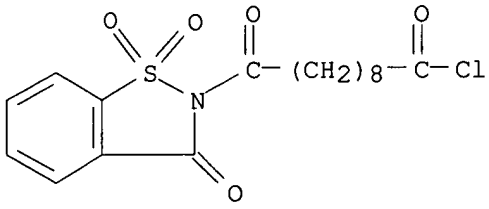
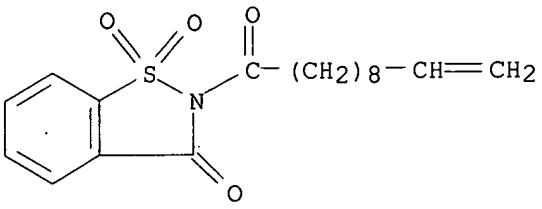


RN 852233-93-3 CAPLUS
CN 1,2-Benzisothiazol-3(2H)-one, 2-(1-oxo-10-undecenyl)-, 1,1-dioxide (9CI) (CA INDEX NAME)



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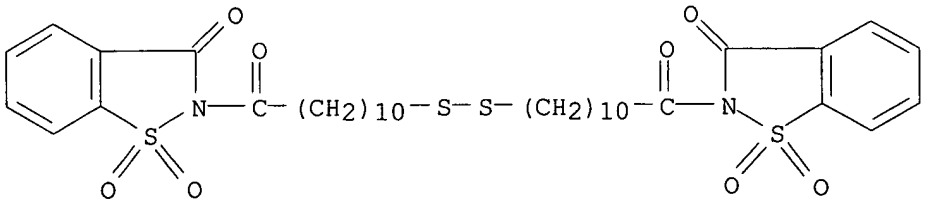
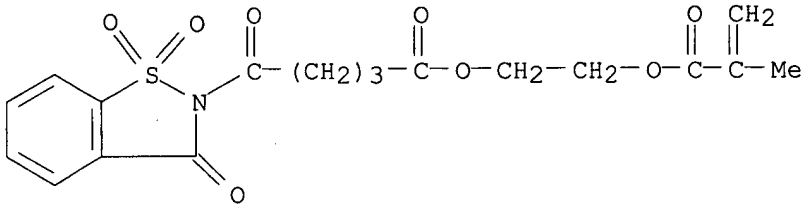
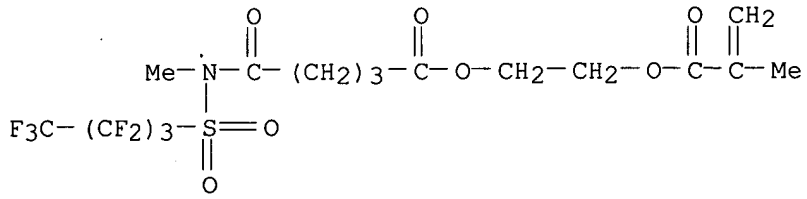
CN 1,2-Benzisothiazol-3(2H)-one, 2,2'-[dithiobis(1-oxo-11,1-undecanediyl)]bis-, 1,1,1',1'-tetraoxide (9CI) (CA INDEX NAME)



RN 852233-95-5 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-pentanoic acid, δ,3-dioxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester, 1,1-dioxide (9CI) (CA INDEX NAME)



RN 852233-96-6 CAPLUS
CN Pentanoic acid, 5-[methyl[(nonafluorobutyl)sulfonyl]amino]-5-oxo-, 2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl ester (9CI) (CA INDEX NAME)



L111 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:431463 CAPLUS
DOCUMENT NUMBER: 142:478409
TITLE: N-sulfonylaminocarbonyl containing compounds
INVENTOR(S): **Benson, Karl E.; David, Moses M.; Kipke, Cary A.; Lakshmi, Brinda B.;**

Leir, Charles M.; Moore, George G.; Shah, Rahul

PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S. Pat. Appl. Publ., 37 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005107615	A1	20050519	US 2003-713174	20031114
US 2005112672	A1	20050526	US 2004-987522	20041112
WO 2005049590	A2	20050602	WO 2004-US37965	20041112
WO 2005049590	A3	20050825		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
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PRIORITY APPLN. INFO.: US 2003-713174 A2 20031114
US 2003-533169P P 20031230

OTHER SOURCE(S): MARPAT 142:478409

AB Compds. having two reactive functional groups are described that can be used to provide a connector group between a substrate and an amine-containing material. The first reactive functional group can be used to provide attachment to a surface of a substrate. The second reactive functional group is a N-sulfonylaminocarbonyl group that can be reacted with an amine-containing material, particularly a primary aliphatic amine, to form a carbonylimino-containing connector group. The invention also provides articles and methods for immobilizing amine-containing materials to a substrate.

IC ICM C07F009-02
ICS C07D403-02; C07C309-54
INCL 546268100; 548950000; 548261000; 552001000; 548954000; 556412000; 558166000; 558410000; 560330000
CC 9-16 (Biochemical Methods)

IT 56-87-1, Lysine, reactions 74-89-5, Methylamine, reactions 75-09-2, Dichloromethane, reactions 75-76-3, Tetramethylsilane 81-07-2, 2,3-Dihydro-3-oxobenzisosulfonazole 108-30-5, Succinic anhydride, reactions 110-71-4 111-19-3, Sebacoyl chloride 121-44-8, Triethylamine, reactions 124-22-1, 1-Aminododecane 128-44-9, Sodium saccharin 335-05-7, Trifluoromethanesulfonyl fluoride 456-64-4 929-06-6, 2-(2-Aminoethoxy)ethanol 3007-31-6, Didodecylamine 6066-82-6, N-Hydroxysuccinimide 6155-57-3, Sodium saccharin dihydrate 7087-68-5, N,N-Diisopropylethylamine 7719-09-7, Thionyl chloride 10025-78-2, Trichlorosilane 25086-15-1 27072-45-3D, FITC, reaction with albumins 38460-95-6, 10-Undecenoyl chloride 71310-21-9, 11-Mercaptoundecanoic acid 157090-59-0, Kapton e **851778-67-1 851778-68-2 851778-69-3 851778-70-6 851778-71-7**
RL: RCT (Reactant); RACT (Reactant or reagent)

(N-sulfonylaminocarbonyl containing compds.)
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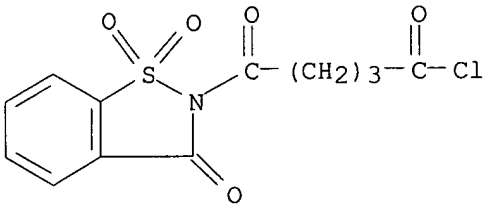
7719-09-7DP, Thionyl chloride, reaction with polymers 851778-56-8P
851778-57-9P **851778-58-0P 851778-59-1P**
851778-60-4P 851778-61-5P 851778-62-6P
851778-63-7P 851778-64-8P **851778-65-9P** 851778-66-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(N-sulfonylaminocarbonyl containing compds.)
IT **851778-67-1 851778-68-2 851778-69-3**
851778-70-6 851778-71-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(N-sulfonylaminocarbonyl containing compds.)
RN 851778-67-1 CAPLUS
CN 1,2-Benzisothiazole-2(3H)-pentanoyl chloride, δ,3-dioxo-, 1,1-dioxide (9CI) (CA INDEX NAME)



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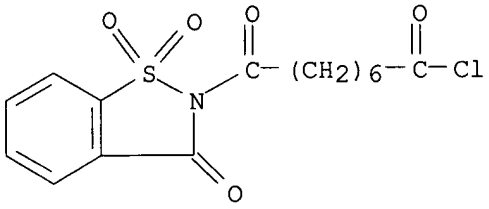

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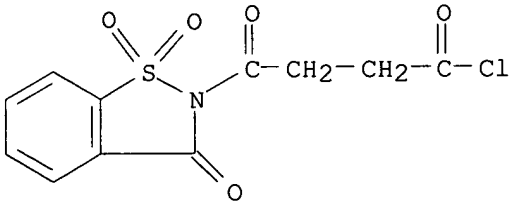

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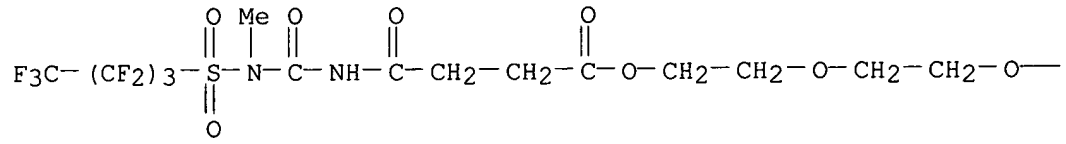
PAGE 1-A



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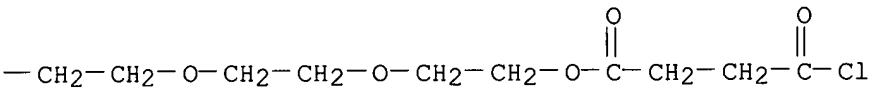
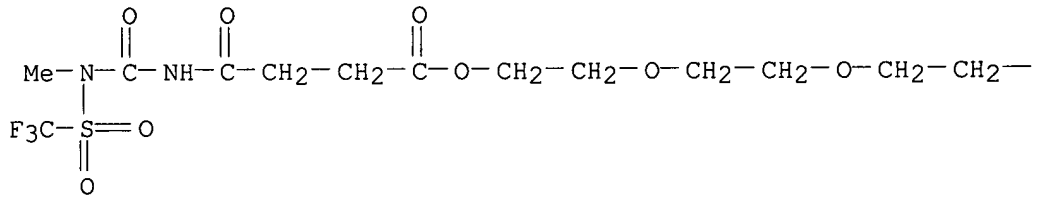


RN 851778-71-7 CAPLUS
CN Butanoic acid, 4-chloro-4-oxo-, 24,24,24-trifluoro-22-methyl-23,23-dioxido-16,19,21-trioxo-3,6,9,12,15-pentaoxa-23-thia-20,22-diazatetracos-1-yl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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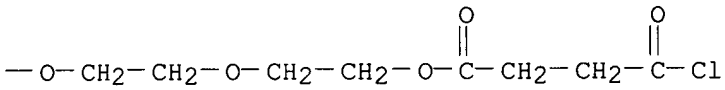

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851778-65-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(N-sulfonylaminocarbonyl containing compds.)
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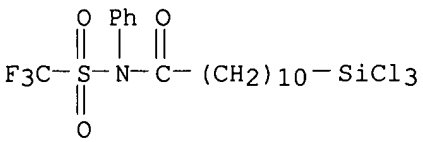
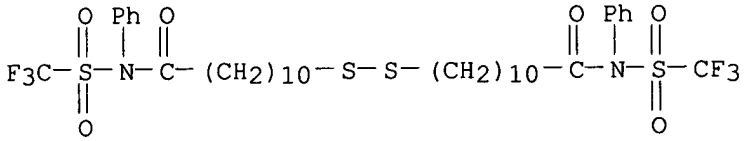
CN Undecanamide, N-phenyl-11-(trichlorosilyl)-N-[(trifluoromethyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 851778-59-1 CAPLUS

CN Undecanamide, 11,11'-dithiobis[N-phenyl-N-[(trifluoromethyl)sulfonyl]-(9CI) (CA INDEX NAME)



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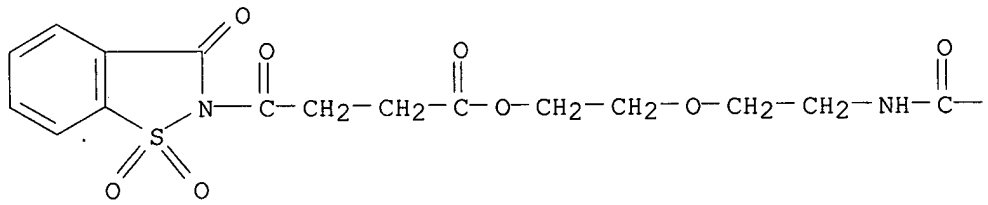
CN 1,2-Benzisothiazole-2(3H)-butanoic acid, γ,3-dioxo-, 7,30-dioxo-3,34-dioxa-18,19-dithia-6,31-diazahexatriacontane-1,36-diyl ester, 1,1,1',1'-tetraoxide (9CI) (CA INDEX NAME)

PAGE 1-A



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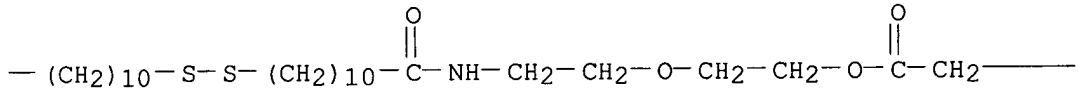

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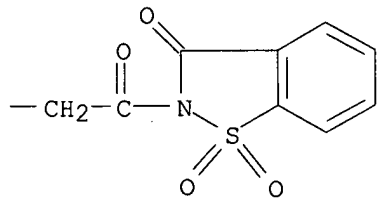

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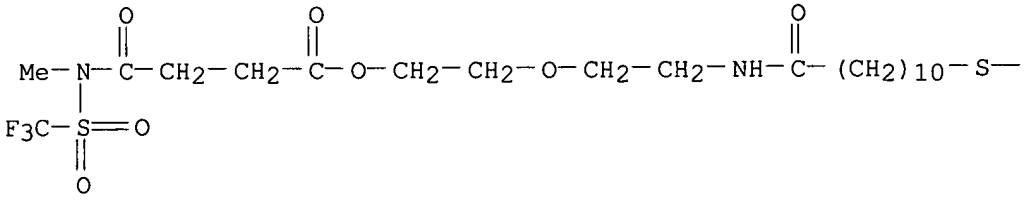
CN Butanoic acid, 4-[methyl[(trifluoromethyl)sulfonyl]amino]-4-oxo-, 7,30-dioxo-3,34-dioxa-18,19-dithia-6,31-diazahexatriacontane-1,36-diyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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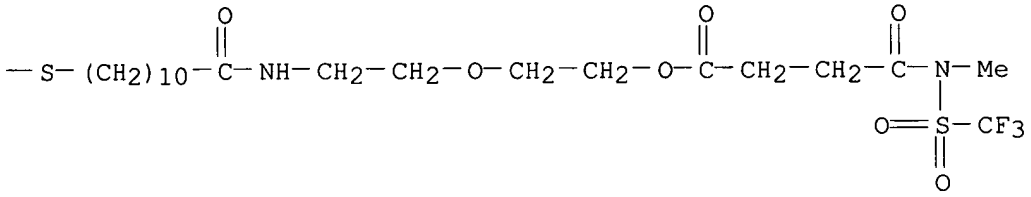
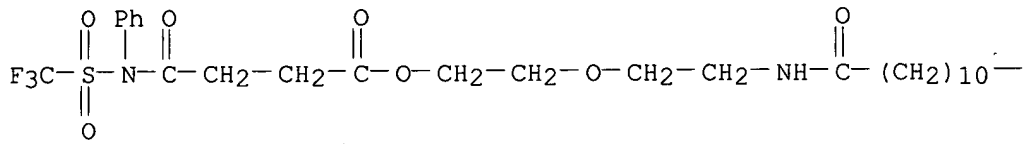


RN 851778-62-6 CAPLUS
CN Butanoic acid, 4-oxo-4-[phenyl[(trifluoromethyl)sulfonyl]amino]-, 7,30-dioxo-3,34-dioxa-18,19-dithia-6,31-diazahexatriacontane-1,36-diyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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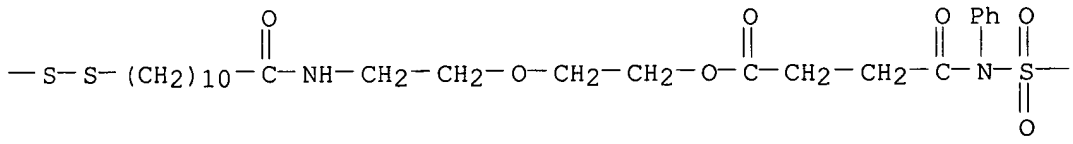

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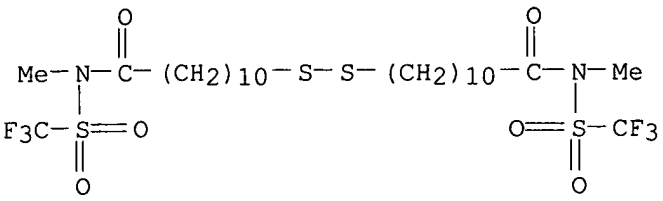
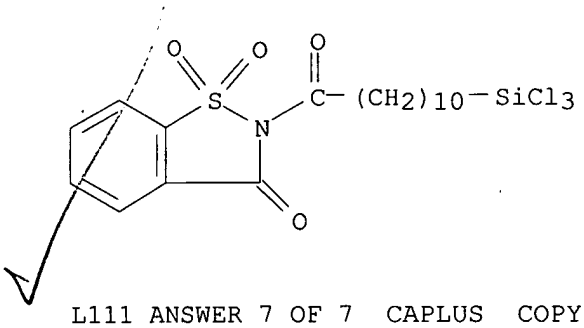
CN Undecanamide, 11,11'-dithiobis[N-methyl-N-[(trifluoromethyl)sulfonyl]- (9CI) (CA INDEX NAME)



RN 851778-65-9 CAPLUS
CN 1,2-Benzisothiazol-3(2H)-one, 2-[1-oxo-11-(trichlorosilyl)undecyl]-, 1,1-dioxide (9CI) (CA INDEX NAME)



L111 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:429324 CAPLUS
DOCUMENT NUMBER: 142:478399
TITLE: N-sulfonyldicarboximide containing tethering compounds
INVENTOR(S): **Benson, Karl E.; David, Moses M.; Kipke, Cary A.; Lakshmi, Brinda B.; Leir, Charles M.; Moore, George G.; Shah, Rahul**
PATENT ASSIGNEE(S): 3M Innovative Properties Company, USA
SOURCE: U.S. Pat. Appl. Publ., 51 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 7
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005106709	A1	20050519	US 2003-714053	20031114
WO 2005049565	A1	20050602	WO 2004-US37778	20041112
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US 2005227076	A1	20051013	US 2004-987075	20041112

PRIORITY APPLN. INFO.: US 2003-714053 A 20031114
OTHER SOURCE(S): MARPAT 142:478399
AB Compds. having two reactive functional groups are described that can be

used as a tethering compound to immobilize an amine-containing material to a substrate. The 1st reactive functional group can be used to provide attachment to a surface of a substrate. The 2nd reactive functional group is a N-sulfonyldicarboximide group that can be reacted with an amine-containing material, particularly a primary aliphatic amine, to form a connector group between the substrate and the amine-containing material. The invention also provides articles and methods for immobilizing amine-containing materials to a substrate.

IC ICM C12M001-34
ICS A61L002-00; B05D003-00; C07D023-02; C07D249-18

INCL 435287100; 427002110; 548260000; 548954000; 556013000; 552001000; 558410000; 558166000; 560330000

CC 9-15 (Biochemical Methods)
Section cross-reference(s): 17, 27

Search history

Shiao 10/713174 12/29/2005

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               ACT SHI174APP/A
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L1             3 SEA ABB=ON  PLU=ON  (US2003-713174/AP OR US2003-713174/PRN)
              ---------

     FILE 'REGISTRY' ENTERED AT 10:41:08 ON 29 DEC 2005
               ACT SHI174APRNS/A
              ---------
L2           118 SEA ABB=ON  PLU=ON  (7719-09-7/BI OR 929-06-6/BI OR 128-44-9/BI
                 OR 25086-15-1/BI OR 81-07-2/BI OR 851778-65-9/BI OR 10025-78-2
                 /BI OR 108-30-5/BI OR 108-55-4/BI OR 110-71-4/BI OR 111-19-3/BI
                 OR 121-44-8/BI OR 147072-47-7/BI OR 157090-59-0/BI OR
                 23483-56-9/BI OR 3007-31-6/BI OR 335-05-7/BI OR 34310-29-7/BI
                 OR 41643-17-8/BI OR 456-64-4/BI OR 6066-82-6/BI OR 7087-68-5/BI
                 OR 71310-21-9/BI OR 7440-21-3/BI OR 75-09-2/BI OR 851778-52-4/
                 BI OR 851778-53-5/BI OR 851778-54-6/BI OR 851778-55-7/BI OR
                 851778-58-0/BI OR 851778-59-1/BI OR 851778-60-4/BI OR 851778-61
                 -5/BI OR 851778-62-6/BI OR 851778-63-7/BI OR 851778-69-3/BI OR
                 852233-93-3/BI OR 852233-95-5/BI OR 868-77-9/BI OR 100-42-5/BI
                 OR 104-15-4/BI OR 118216-33-4/BI OR 124-22-1/BI OR 1333-07-9/BI
                 OR 13472-08-7/BI OR 138-41-0/BI OR 1484-13-5/BI OR 149-73-5/BI
                 OR 18358-13-9/BI OR 2016-57-1/BI OR 22535-49-5/BI OR 22808-73-
                 7/BI OR 24937-79-9/BI OR 25067-59-8/BI OR 25190-89-0/BI OR
                 2530-85-0/BI OR 25322-68-3/BI OR 26249-38-7/BI OR 2680-03-7/BI
                 OR 27072-45-3/BI OR 27236-80-2/BI OR 31049-18-0/BI OR 38460-95-
                 6/BI OR 4420-74-0/BI OR 51178-68-8/BI OR 54773-31-8/BI OR
                 56-87-1/BI OR 56992-87-1/BI OR 6155-57-3/BI OR 63-74-1/BI OR
                 64114-51-8/BI OR 67584-59-2/BI OR 68-12-2/BI OR 74-89-5/BI OR
                 7440-32-6/BI OR 7440-44-0/BI OR 7440-57-5/BI OR 75-44-5/BI OR
                 75-76-3/BI OR 7534-94-3/BI OR 76-32-4/BI OR 760-93-0/BI OR
                 80-62-6/BI OR 814-68-6/BI OR 826-62-0/BI OR 851778-56-8/BI OR
                 851778-57-9/BI OR 851778-64-8/BI OR 851778-66-0/BI OR 851778-67
                 -1/BI OR 851778-68-2/BI OR 851778-70-6/BI OR 851778-71-7/BI OR
                 851934-33-3/BI OR 851934-34-4/BI OR 851934-43-5/BI OR 851934-44
                 -6/BI OR 851934-46-8/BI OR 851934-47-9/BI OR 851934-48-0/BI OR
                 851934-76-4/BI OR 852233-89-7/BI OR 852233-94-4/BI OR 852233-96
                 -6/BI OR 859232-48-7/BI OR 859232-49-8/BI OR 859500-21-3/BI OR
                 860032-10-6/BI OR 860032-11-7/BI OR 860032-12-8/BI OR 860032-13
                 -9/BI OR 860032-14-0/BI OR 860032-15-1/BI OR 872-50-4/BI OR
                 9003-53-6/BI OR 9011-14-7/BI OR 92-84-2/BI OR 999-61-1/BI)
              ---------
               ACT SHI174STRD/A
              ---------
L3             STR
L4          9125 SEA SSS FUL L3
              ---------
L5             STRUCTURE UPLOADED
L6            50 SEA SUB=L4 SSS SAM L5
L7             STRUCTURE UPLOADED
L8            50 SEA SUB=L4 SSS SAM L7
L9             0 SEA SUB=L4 CSS SAM L7
L10            STRUCTURE UPLOADED
```

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     FILE 'STNGUIDE' ENTERED AT 11:44:28 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 11:47:50 ON 29 DEC 2005
L11             STRUCTURE UPLOADED
L12           50 SEA SUB=L4 SSS SAM L11
L13             STRUCTURE UPLOADED
L14           50 SEA SUB=L4 SSS SAM L13
L15         2986 SEA SUB=L4 SSS FUL L13
                SAVE TEMP L15 SHI174STRX/A
L16           45 SEA SUB=L15 SSS SAM L7
L17           31 SEA SUB=L15 SSS SAM L11
L18           45 SEA SUB=L15 SSS SAM L7
L19         1085 SEA SUB=L15 SSS FUL L7
                SAVE TEMP L19 SHI174STHA/A
L20           31 SEA SUB=L15 SSS SAM L11
L21          754 SEA SUB=L15 SSS FUL L11
                SAVE TEMP L21 SHI174STHC/A
L22         1104 SEA ABB=ON  PLU=ON  L19 OR L21

     FILE 'REGISTRY' ENTERED AT 12:43:19 ON 29 DEC 2005

     FILE 'CAPLUS' ENTERED AT 12:43:20 ON 29 DEC 2005
L23          310 SEA ABB=ON  PLU=ON  L22

     FILE 'STNGUIDE' ENTERED AT 12:43:48 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 12:44:40 ON 29 DEC 2005
L24             STRUCTURE UPLOADED
L25           30 SEA SUB=L19 SSS SAM L24
                D STAT QUE L25
L26          691 SEA SUB=L19 SSS FUL L24
                SAVE TEMP L26 SHI174SHA2/A
L27         1072 SEA ABB=ON  PLU=ON  L21 OR L26

     FILE 'STNGUIDE' ENTERED AT 13:14:18 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 13:15:43 ON 29 DEC 2005
L28             STRUCTURE UPLOADED
L29           15 SEA SUB=L21 SSS SAM L28
L30          372 SEA SUB=L21 SSS FUL L28
                SAVE TEMP L30 SHI174SHC2/A
L31          729 SEA ABB=ON  PLU=ON  L26 OR L30

     FILE 'CAPLUS' ENTERED AT 13:19:40 ON 29 DEC 2005
L32          267 SEA ABB=ON  PLU=ON  L31

     FILE 'STNGUIDE' ENTERED AT 13:20:28 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 13:22:41 ON 29 DEC 2005
L33           16 SEA ABB=ON  PLU=ON  L2 AND L31

     FILE 'STNGUIDE' ENTERED AT 13:23:28 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 13:44:17 ON 29 DEC 2005
L34             STRUCTURE UPLOADED
L35           11 SEA SUB=L30 SSS SAM L34
L36          283 SEA SUB=L30 SSS FUL L34
                SAVE TEMP SHI174SHC3/A L36
```

```
     FILE 'CAPLUS' ENTERED AT 13:48:37 ON 29 DEC 2005
L37         129 SEA ABB=ON  PLU=ON  L36

     FILE 'STNGUIDE' ENTERED AT 13:48:56 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 13:53:01 ON 29 DEC 2005
L38             STRUCTURE UPLOADED
L39          18 SEA SUB=L26 SSS SAM L38
L40         432 SEA SUB=L26 SSS FUL L38
                SAVE TEMP SHI174SHA3/A L40
L41         467 SEA ABB=ON  PLU=ON  L40 OR L36

     FILE 'CAPLUS' ENTERED AT 13:56:33 ON 29 DEC 2005
L42         172 SEA ABB=ON  PLU=ON  L41
                D COST

     FILE 'STNGUIDE' ENTERED AT 13:57:06 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 13:57:35 ON 29 DEC 2005
L43          16 SEA ABB=ON  PLU=ON  L2 AND L41

     FILE 'STNGUIDE' ENTERED AT 14:08:18 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 14:10:53 ON 29 DEC 2005
L44             STRUCTURE UPLOADED
L45           6 SEA SUB=L36 SSS SAM L44
L46         210 SEA SUB=L36 SSS FUL L44
                SAVE TEMP L46 SHI174SHC4/A

     FILE 'STNGUIDE' ENTERED AT 14:13:10 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 14:14:12 ON 29 DEC 2005
L47             STRUCTURE UPLOADED
L48          10 SEA SUB=L40 SSS SAM L47
                D SCA
L49         269 SEA SUB=L40 SSS FUL L47
                SAVE TEMP L49 SHI174SHA4/A
L50         315 SEA ABB=ON  PLU=ON  L49 OR L46

     FILE 'CAPLUS' ENTERED AT 14:17:28 ON 29 DEC 2005
L51         138 SEA ABB=ON  PLU=ON  L50
L52          59 SEA ABB=ON  PLU=ON  L51 AND P/DT
L53          79 SEA ABB=ON  PLU=ON  L51 AND J/DT
L54          75 SEA ABB=ON  PLU=ON  L53 AND PY<2004
L55          72 SEA ABB=ON  PLU=ON  L53 AND PY<2003
L56          55 SEA ABB=ON  PLU=ON  L53 AND PY<2000
L57          50 SEA ABB=ON  PLU=ON  L52 AND PY<2003
L58          48 SEA ABB=ON  PLU=ON  L52 AND PY<2000

     FILE 'CAPLUS' ENTERED AT 14:23:38 ON 29 DEC 2005
                D STAT QUE L51
L59             ANALYZE PLU=ON  L51 1- RN :    4516 TERMS
                D

     FILE 'REGISTRY' ENTERED AT 14:26:13 ON 29 DEC 2005
L60          16 SEA ABB=ON  PLU=ON  L50 AND L2
L61             ANALYZE PLU=ON  L60 1- LC :       4 TERMS
                D
```

```
     FILE 'CAPLUS' ENTERED AT 14:27:47 ON 29 DEC 2005
L62            7 SEA ABB=ON  PLU=ON  L60

     FILE 'USPATFULL' ENTERED AT 14:28:09 ON 29 DEC 2005
L63            3 SEA ABB=ON  PLU=ON  L60

     FILE 'REGISTRY' ENTERED AT 14:28:34 ON 29 DEC 2005
L64            0 SEA ABB=ON  PLU=ON  L60 AND BEILSTEIN/LC NOT CAPLUS/LC

     FILE 'REGISTRY' ENTERED AT 14:29:18 ON 29 DEC 2005
                D STAT QUE L60

     FILE 'CAPLUS' ENTERED AT 14:29:33 ON 29 DEC 2005
                D STAT QUE NOS L62

     FILE 'USPATFULL' ENTERED AT 14:29:58 ON 29 DEC 2005
                D STAT QUE NOS L63

     FILE 'CAPLUS, USPATFULL' ENTERED AT 14:30:33 ON 29 DEC 2005
L65            8 DUP REM L62 L63 (2 DUPLICATES REMOVED)
                     ANSWERS '1-7' FROM FILE CAPLUS
                     ANSWER '8' FROM FILE USPATFULL
                D IBIB ABS HITSTR L65 1-8

     FILE 'STNGUIDE' ENTERED AT 14:32:59 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 14:33:55 ON 29 DEC 2005

     FILE 'CAPLUS' ENTERED AT 14:34:00 ON 29 DEC 2005
                D STAT QUE L51
L66          131 SEA ABB=ON  PLU=ON  L51 NOT L62

     FILE 'REGISTRY' ENTERED AT 14:35:03 ON 29 DEC 2005
L67          299 SEA ABB=ON  PLU=ON  L50 NOT L60

     FILE 'CAPLUS' ENTERED AT 14:35:22 ON 29 DEC 2005
L68          134 SEA ABB=ON  PLU=ON  L67
L69          131 SEA ABB=ON  PLU=ON  L51 NOT L62

     FILE 'REGISTRY' ENTERED AT 14:36:38 ON 29 DEC 2005

     FILE 'CAPLUS' ENTERED AT 14:36:45 ON 29 DEC 2005
                D STAT QUE L69
                D IBIB ABS HITSTR L69 65-131

     FILE 'STNGUIDE' ENTERED AT 14:40:02 ON 29 DEC 2005
                D COST FULL

     FILE 'STNGUIDE' ENTERED AT 14:52:29 ON 29 DEC 2005

     FILE 'REGISTRY' ENTERED AT 14:55:01 ON 29 DEC 2005
L70                STRUCTURE UPLOADED
L71           21 SEA SUB=L15 SSS SAM L70
L72            1 SEA SUB=L46 SSS SAM L70
L73            1 SEA SUB=L49 SSS SAM L70
L74            1 SEA SUB=L26 SSS SAM L70
L75            1 SEA SUB=L30 SSS SAM L70
L76            3 SEA SUB=L19 SSS SAM L70
L77            2 SEA SUB=L21 SSS SAM L70
```

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                D L70
L78           95 SEA SUB=L19 SSS FUL L70
L79           63 SEA SUB=L21 SSS FUL L70
L80          103 SEA ABB=ON  PLU=ON  L78 OR L79

     FILE 'CAPLUS' ENTERED AT 15:00:42 ON 29 DEC 2005
L81           47 SEA ABB=ON  PLU=ON  L80

     FILE 'REGISTRY' ENTERED AT 15:02:07 ON 29 DEC 2005

     FILE 'CAPLUS' ENTERED AT 15:02:10 ON 29 DEC 2005
                D STAT QUE L81
L82           40 SEA ABB=ON  PLU=ON  L81 NOT L62
L*** DEL     145 S BENSON, K?/AU
L*** DEL     959 S DAVID, M?/AU
L*** DEL      26 S KIPKE, C?/AU
L86          145 SEA ABB=ON  PLU=ON  BENSON K?/AU
L87          959 SEA ABB=ON  PLU=ON  DAVID M?/AU
L88           26 SEA ABB=ON  PLU=ON  KIPKE C?/AU
L89           65 SEA ABB=ON  PLU=ON  LAKSHMI B?/AU
L90           52 SEA ABB=ON  PLU=ON  LEIR C?/AU
L91         2193 SEA ABB=ON  PLU=ON  MOORE G?/AU
L92         1869 SEA ABB=ON  PLU=ON  SHAH R?/AU
L93            4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89 AND L90 AND
                L91 AND L92
L94            4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89 AND L90 AND
                L91
L95            4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89 AND L90 AND
                L92
L96            4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89 AND L91 AND
                L92
L97            4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L90 AND L91 AND
                L92
L98            4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L89 AND L90 AND L91 AND
                L92
L99            6 SEA ABB=ON  PLU=ON  L86 AND L88 AND L89 AND L90 AND L91 AND
                L92
L100           4 SEA ABB=ON  PLU=ON  L87 AND L88 AND L89 AND L90 AND L91 AND
                L92
L101           4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89 AND L90
L102           4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L89 AND L92
L103           4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L88 AND L91 AND L92
L104           4 SEA ABB=ON  PLU=ON  L86 AND L87 AND L90 AND L91 AND L92
L105           7 SEA ABB=ON  PLU=ON  L86 AND L89 AND L90 AND L91 AND L92
L106           6 SEA ABB=ON  PLU=ON  L88 AND L89 AND L90 AND L91 AND L92
L107           7 SEA ABB=ON  PLU=ON  (L93 OR L94 OR L95 OR L96 OR L97 OR L98 OR
                L99 OR L100 OR L101 OR L102 OR L103 OR L104 OR L105 OR L106)
L108          40 SEA ABB=ON  PLU=ON  L82 NOT L107

     FILE 'CAPLUS' ENTERED AT 15:10:46 ON 29 DEC 2005
                D QUE L107
L109        2011 SEA ABB=ON  PLU=ON  L4
L110           5 SEA ABB=ON  PLU=ON  L107 AND L109

     FILE 'REGISTRY' ENTERED AT 15:12:03 ON 29 DEC 2005

     FILE 'CAPLUS' ENTERED AT 15:12:06 ON 29 DEC 2005
                D STAT QUE NOS L110
L111           7 SEA ABB=ON  PLU=ON  L107 OR L110
```

FILE 'REGISTRY' ENTERED AT 15:12:46 ON 29 DEC 2005

FILE 'CAPLUS' ENTERED AT 15:12:51 ON 29 DEC 2005
D STAT QUE NOS L111
D IBIB ABS HITIND HITSTR L111 1-7

FILE 'STNGUIDE' ENTERED AT 15:17:57 ON 29 DEC 2005

FILE 'REGISTRY' ENTERED AT 15:18:16 ON 29 DEC 2005

FILE 'CAPLUS' ENTERED AT 15:18:23 ON 29 DEC 2005
D STAT QUE L81

FILE 'REGISTRY' ENTERED AT 15:20:40 ON 29 DEC 2005

FILE 'CAPLUS' ENTERED AT 15:20:41 ON 29 DEC 2005
L112 116 SEA ABB=ON PLU=ON L51 NOT L81
L113 22 SEA ABB=ON PLU=ON L51 AND L81
L114 22 SEA ABB=ON PLU=ON L42 AND L81
L115 43 SEA ABB=ON PLU=ON L32 AND L81

FILE 'REGISTRY' ENTERED AT 15:24:02 ON 29 DEC 2005

FILE 'CAPLUS' ENTERED AT 15:24:05 ON 29 DEC 2005
D STAT QUE L113

FILE 'REGISTRY' ENTERED AT 15:25:16 ON 29 DEC 2005

FILE 'CAPLUS' ENTERED AT 15:25:18 ON 29 DEC 2005
D STAT QUE L114
D IBIB ABS HITSTR L114 1-22

FILE 'STNGUIDE' ENTERED AT 15:27:24 ON 29 DEC 2005

FILE HOME

FILE CAPLUS

FILE COVERS 1907 - 29 Dec 2005 VOL 144 ISS 1
FILE LAST UPDATED: 28 Dec 2005 (20051228/ED)

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 28 DEC 2005 HIGHEST RN 870751-96-5
DICTIONARY FILE UPDATES: 28 DEC 2005 HIGHEST RN 870751-96-5

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* *
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
* *
****

Structure search iteration limits have been increased. See HELP SLIMITS for details.

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FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Dec 23, 2005 (20051223/UP).

FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 29 Dec 2005 (20051229/PD)
FILE LAST UPDATED: 29 Dec 2005 (20051229/ED)
HIGHEST GRANTED PATENT NUMBER: US6981281
HIGHEST APPLICATION PUBLICATION NUMBER: US2005289677
CA INDEXING IS CURRENT THROUGH 29 Dec 2005 (20051229/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 29 Dec 2005 (20051229/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Oct 2005
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